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VICTORIANS

Discover an era of imperialism, innovation and inequality

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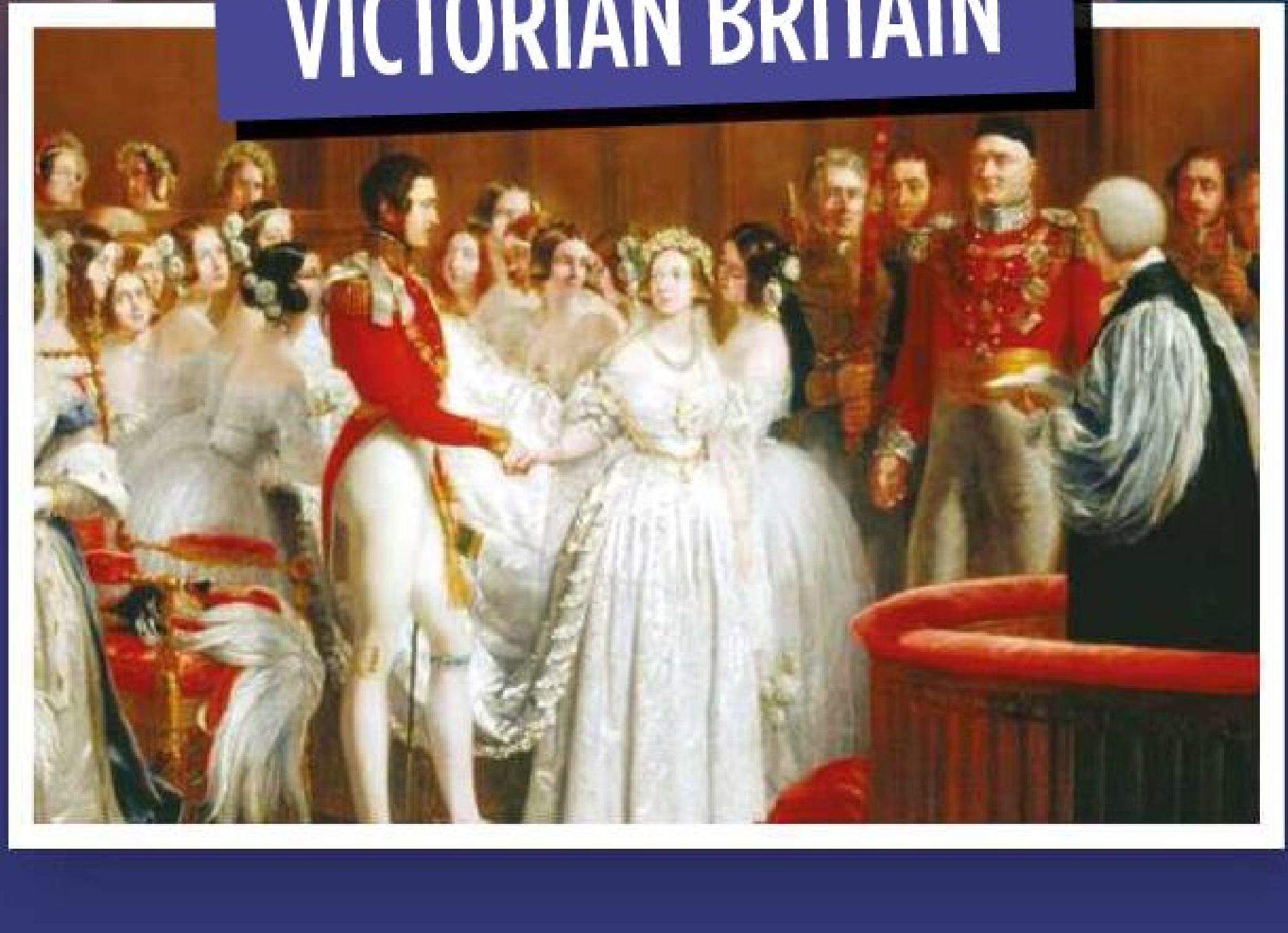
VICTORIAN BRITAIN



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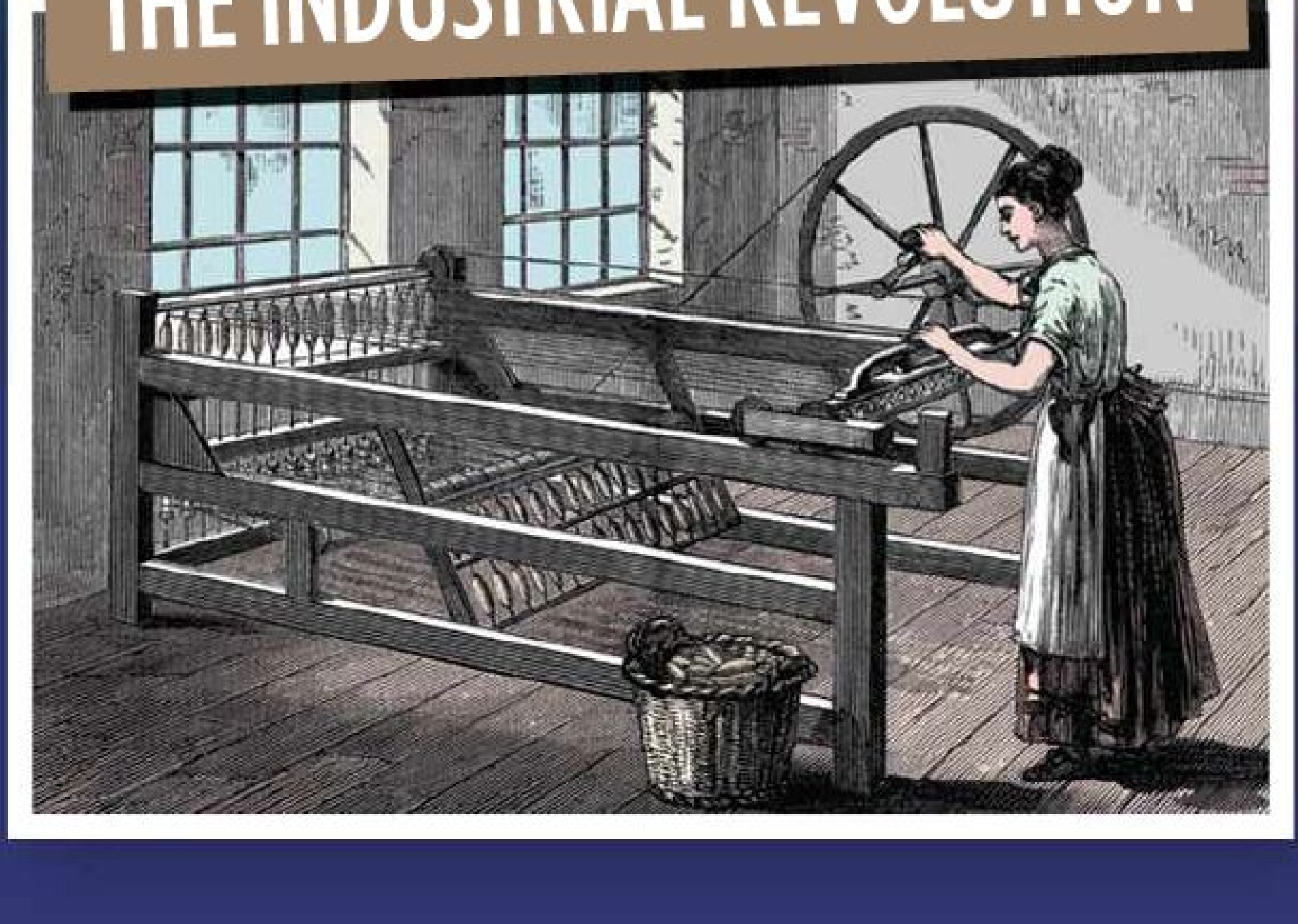
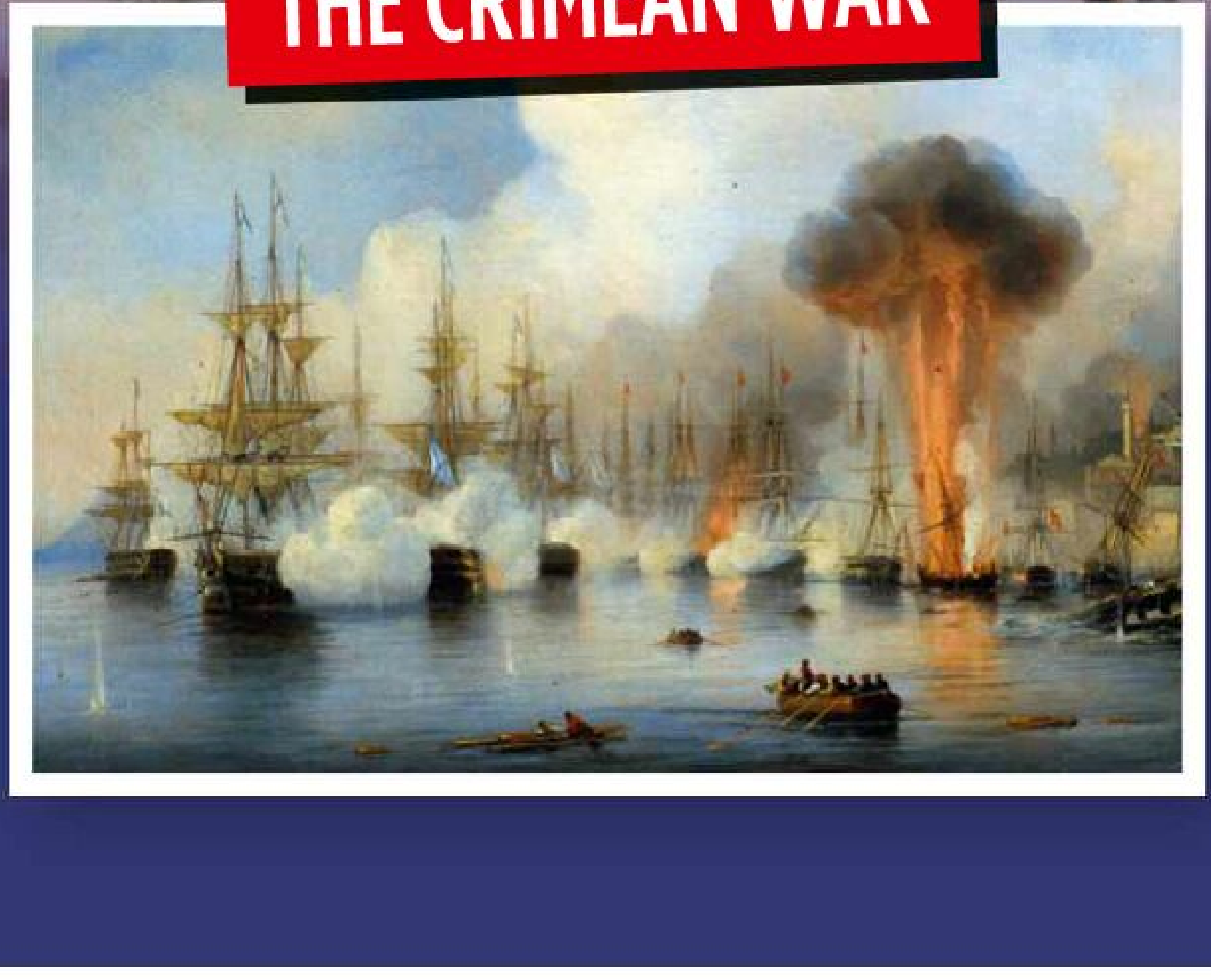
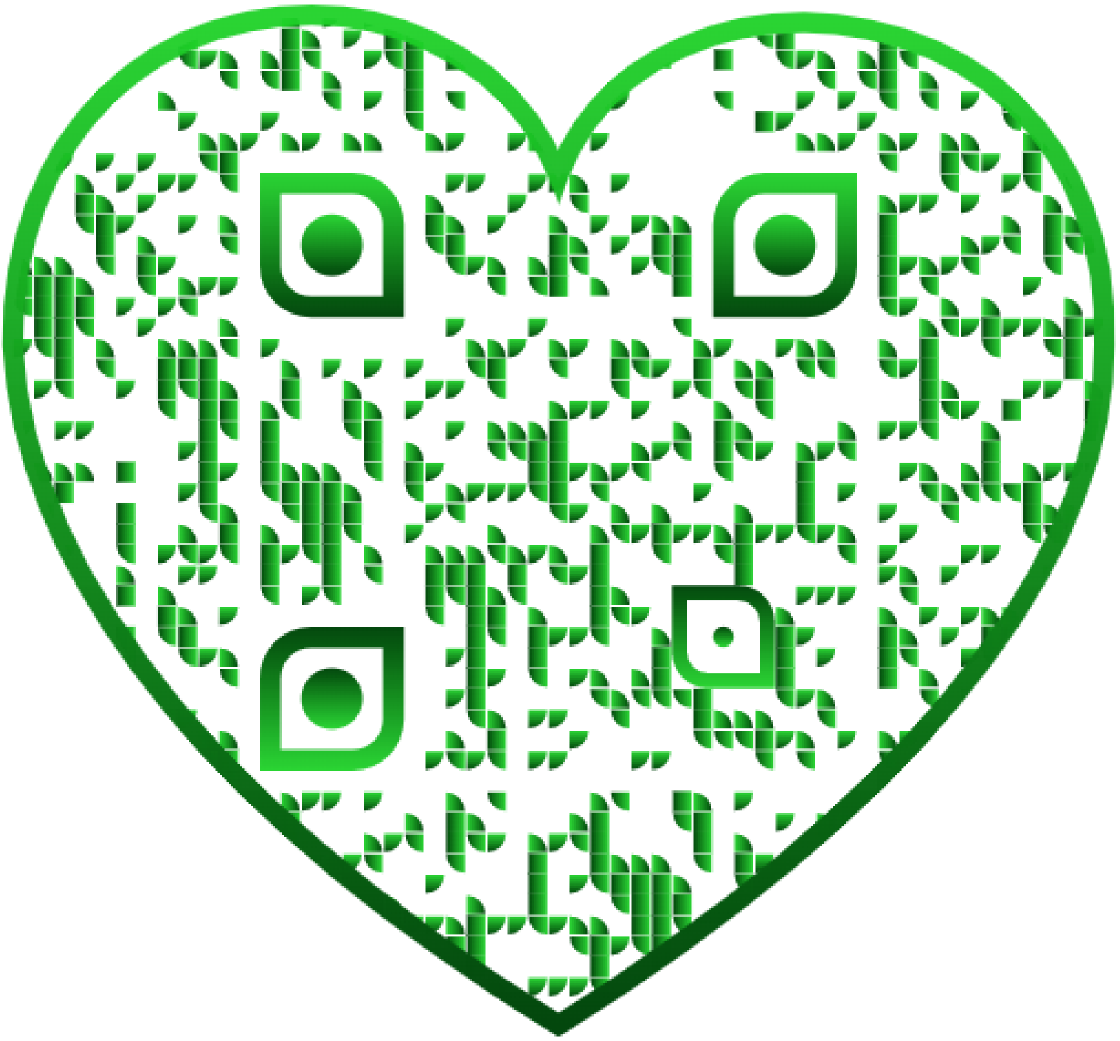


THE CRIMEAN WAR





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WELCOME

Victoria, Albert and their nine children were the epitome of Victorian family life

The Victorian period is often seen as a golden age in British history – a time of great innovation and technological advances. But it was also an era of conflict and colonisation, when Britain's influence stretched across a quarter of the globe. And it was a time of abject poverty for many people – a stark contrast to the riches that were pouring in from acoss the empire.

For this special edition, we've pulled together a host of content on the Victorian era, beginning with a guide to Victorian Britain itself, exploring the long reign of Queen Victoria and the lives of her subjects.

Elsewhere, we take a closer look at the Industrial Revolution, a period that saw everyday life transformed by new inventions and increasingly advanced machinery, helping to create the modern world as we know it. From there, we explore one of the big conflicts of the 19th century, the Crimean War, fought between Russia and an alliance of Britain, France, Turkey and Sardinia and widely regarded as the first 'modern' war.

I hope you find this special edition interesting and informative.

Charlotte Hodgman
Editor

Charlotte

HISTORY EXTRA

HistoryExtra is published by Immediate Media Company London Limited under licence from BBC Studios who help fund new BBC programmes

EDITORIAL
Editor Charlotte Hodgman
charlotte.hodgman@immediate.co.uk
Art Editors Sheu Ho
Picture Editor Samantha Nott

DIGITAL
Digital Editor Elinor Evans
elinor.evans@immediate.co.uk
Deputy Digital Editor Kev Lochun
Premium Content Editor Rachel Dinning
Content Producers Lauren Good and James Osborne
Podcast Editor Ellie Cawthorne

CONTRIBUTORS & EXPERTS
Jon Bauckham, Danny Bird, Eugene Byrne, Elinor Evans, Lottie Goldfinch, Emma Griffin, Andrew Lambert, Spencer Mizen, Sarah Richardson, Nige Tassell, Emma Slattery Williams, Jonathan Wright

PRESS & PR
Communications Manager
Natasha Lee *natasha.lee@immediate.co.uk*

CIRCULATION
Circulation Manager John Lawton

ADVERTISING & MARKETING
Advertisement Manager
Sam Jones 0117 300 8145
sam.jones@immediate.co.uk
Senior Brand Sales Executive
Sam Evanson 0117 300 8544
Brand Sales Executive
Sarah Luscombe 0117 300 8530
Group Direct Marketing Manager
Laurence Robertson 00353 5787 57444
Subscriptions Director
Jacky Perales-Morris
Subscriptions Marketing Manager
Sally Longstaff
Direct Marketing Manager
Aisha Babb
US Representative
Kate Buckley *buckley@buckleypell.com*

PRODUCTION
Production Director Koli Pickersgill
Production Manager Lee Spencer
Senior Repro Technician
Darren McCubbin
Ad Services Co-ordinator
Cherine Araman

PUBLISHING
Managing Director (History and Gardeners' World) Jemima Dixon
Content Director David Musgrovel
CEO Sean Cornwell
CFO & COO Dan Constanda
Chairman Tom Bureau

BBC STUDIOS, UK PUBLISHING
Chair, Editorial Review Boards
Nicholas Brett
Managing Director, Consumer Products and Licensing Stephen Davies
Global Director, Magazines
Mandy Thwaites
Compliance Manager
Cameron McEwan *uk.publishing@bbc.com*

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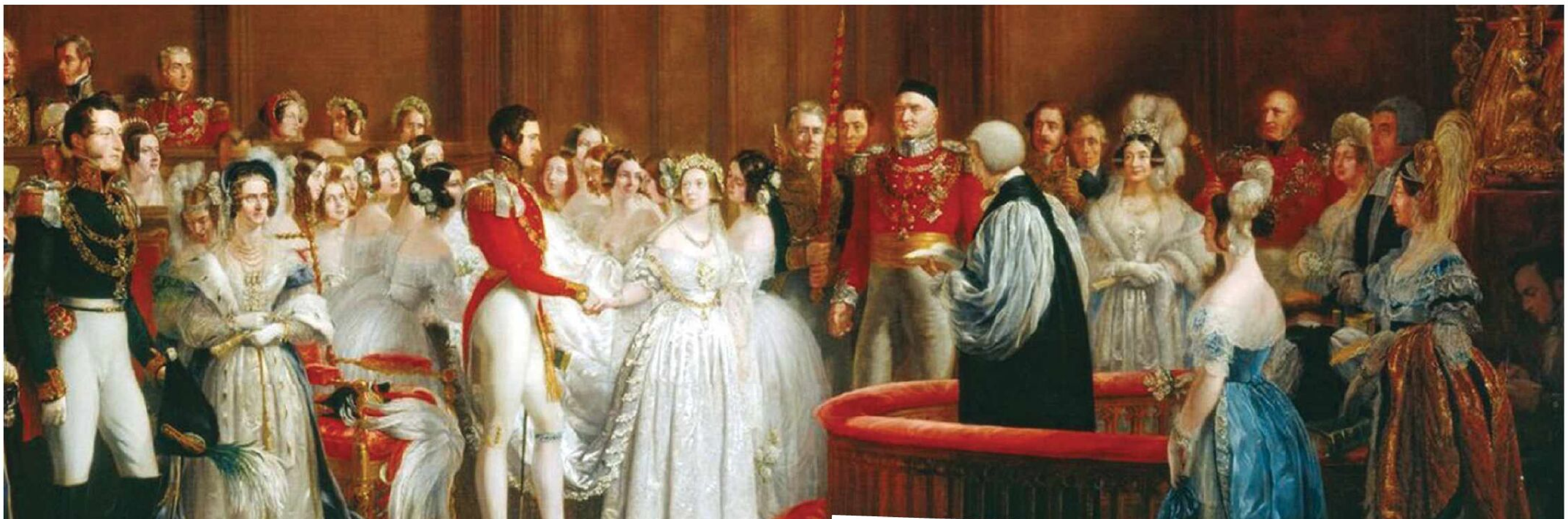
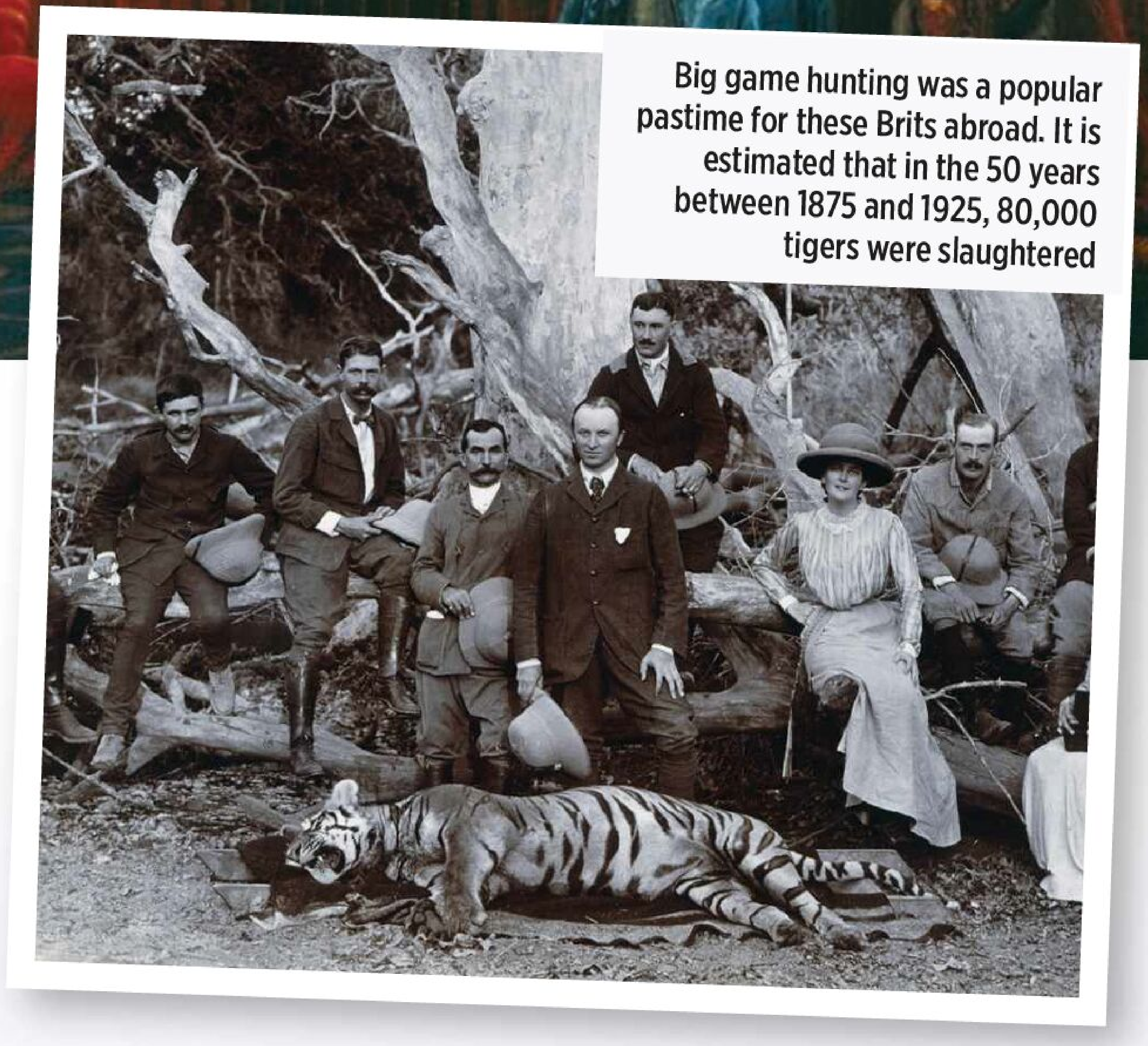


Victoria married Prince Albert in a sumptuous ceremony in 1840 – as depicted in this c1850 painting – following her proposal to him in 1839



Big game hunting was a popular pastime for these Brits abroad. It is estimated that in the 50 years between 1875 and 1925, 80,000 tigers were slaughtered

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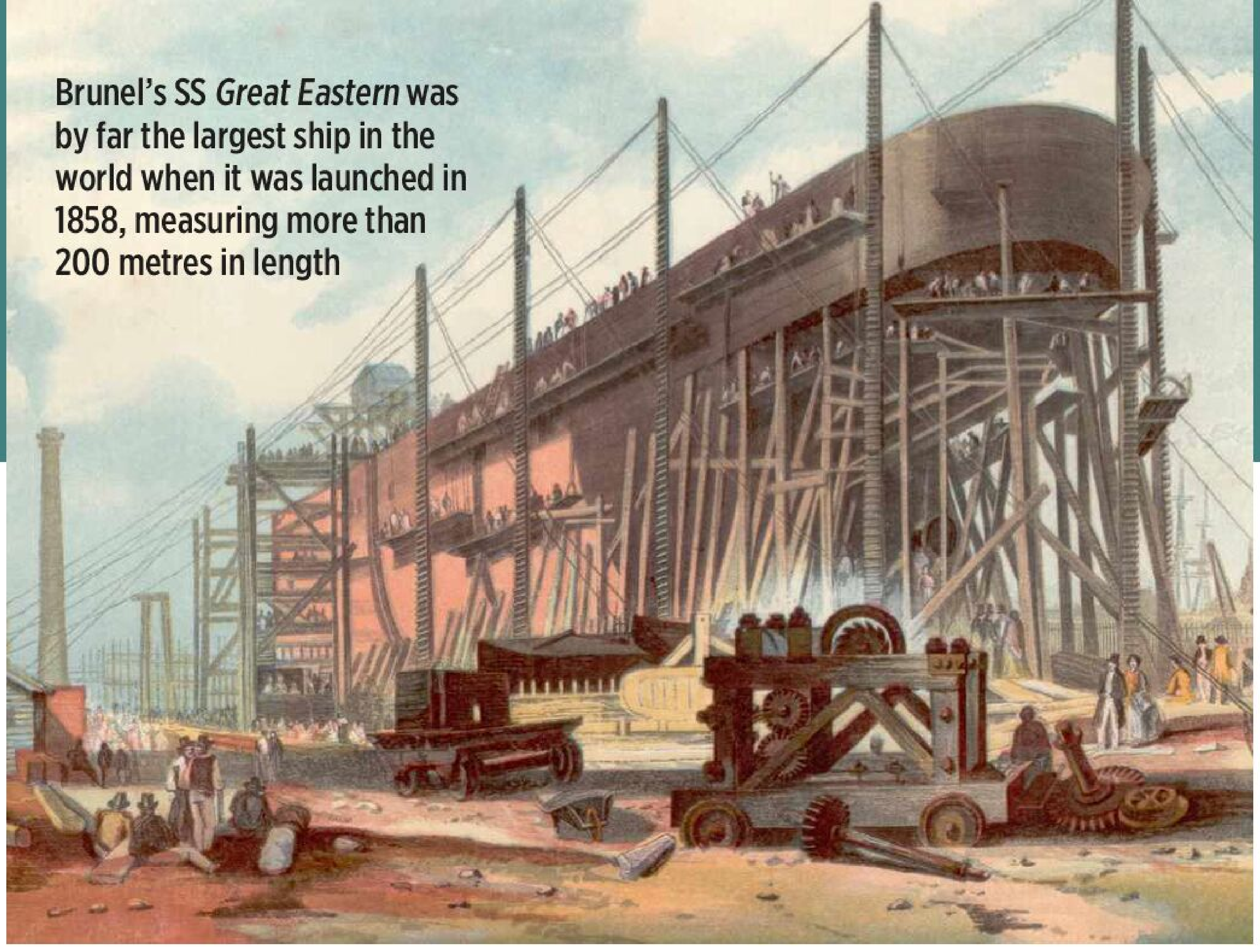

Brunel's SS *Great Eastern* was by far the largest ship in the world when it was launched in 1858, measuring more than 200 metres in length

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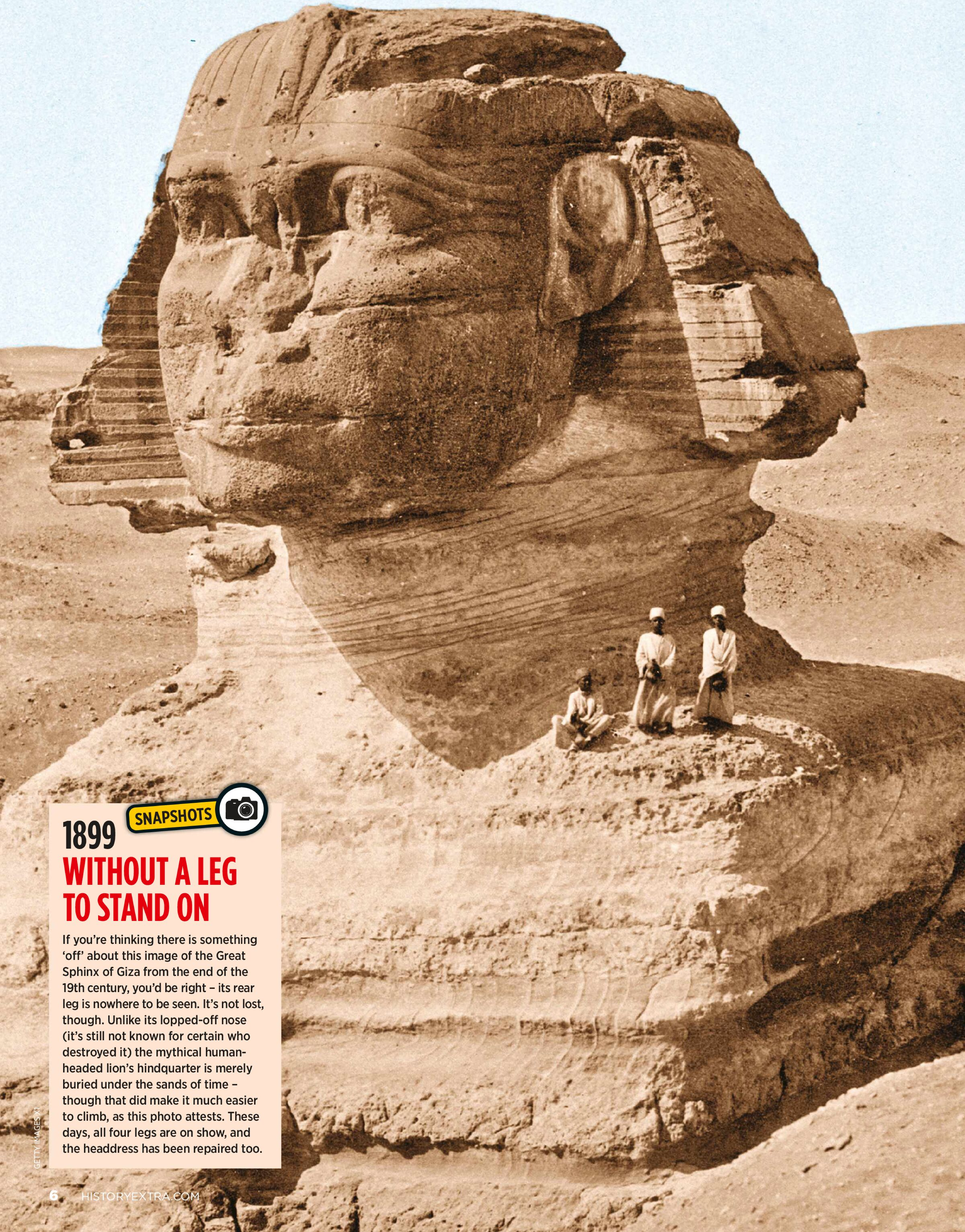
The Crimean War may be best known for events such as the Charge of the Light Brigade, but there is more to it than that. Turn to page 98 to discover the full story



SNAPSHOTS

1899

WITHOUT A LEG TO STAND ON

If you're thinking there is something 'off' about this image of the Great Sphinx of Giza from the end of the 19th century, you'd be right – its rear leg is nowhere to be seen. It's not lost, though. Unlike its lopped-off nose (it's still not known for certain who destroyed it) the mythical human-headed lion's hindquarter is merely buried under the sands of time – though that did make it much easier to climb, as this photo attests. These days, all four legs are on show, and the headdress has been repaired too.

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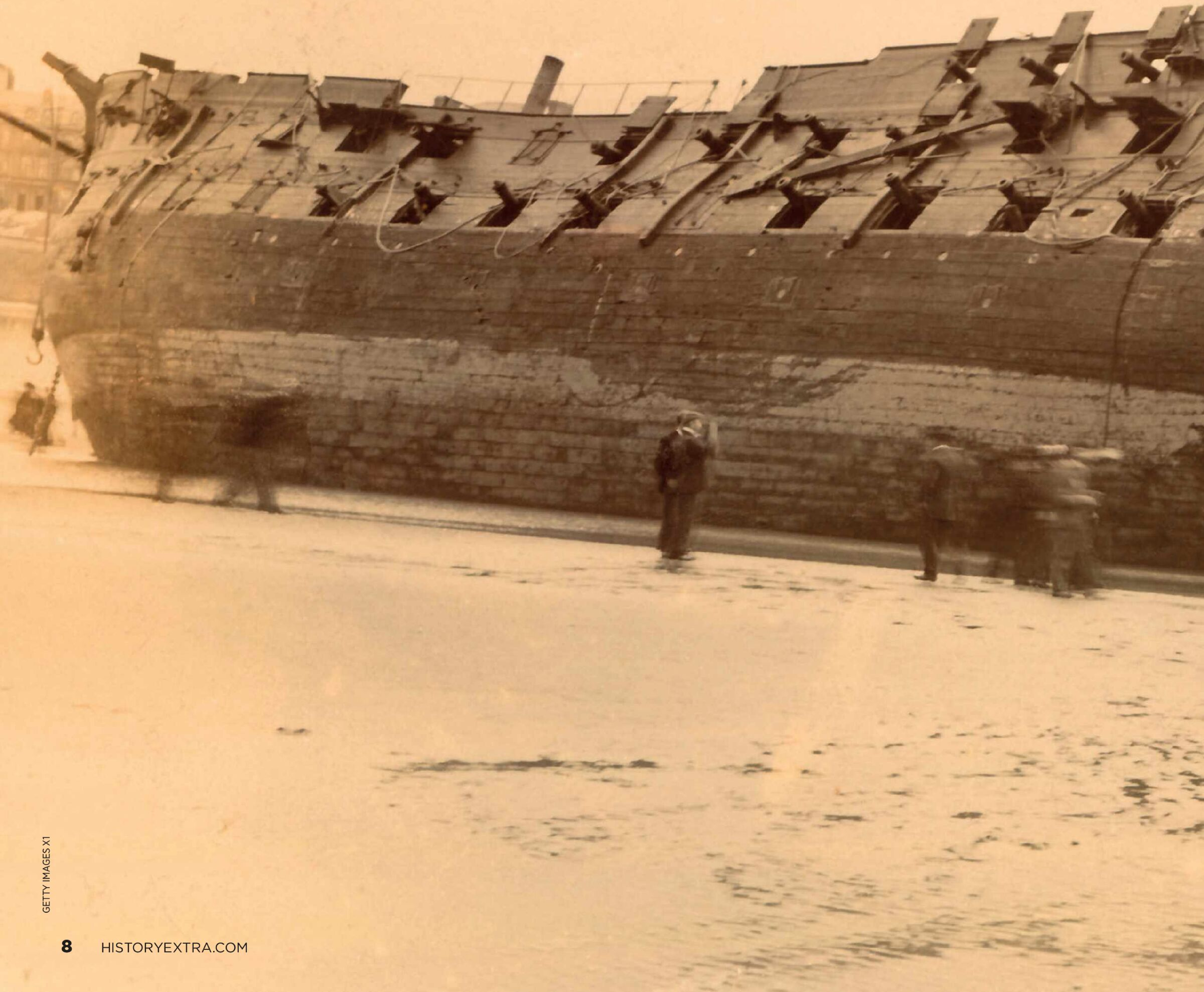
SNAPSHOTS

1897
LAND HO!

One of Nelson's former flagships, HMS *Foudroyant*, lies helpless on a Blackpool beach. Launched in 1798, she had seen some glamorous service, but was sold by the Navy to enthusiast Wheatley Cobb in 1890. He toured the impressive ship around seaside towns, but one stormy night in June 1897, she broke anchor, hit a pier and ran aground on the Sands. Those eager to make a quick penny started selling souvenirs made from her wood. Unfortunately, she was destroyed in another storm later that year.



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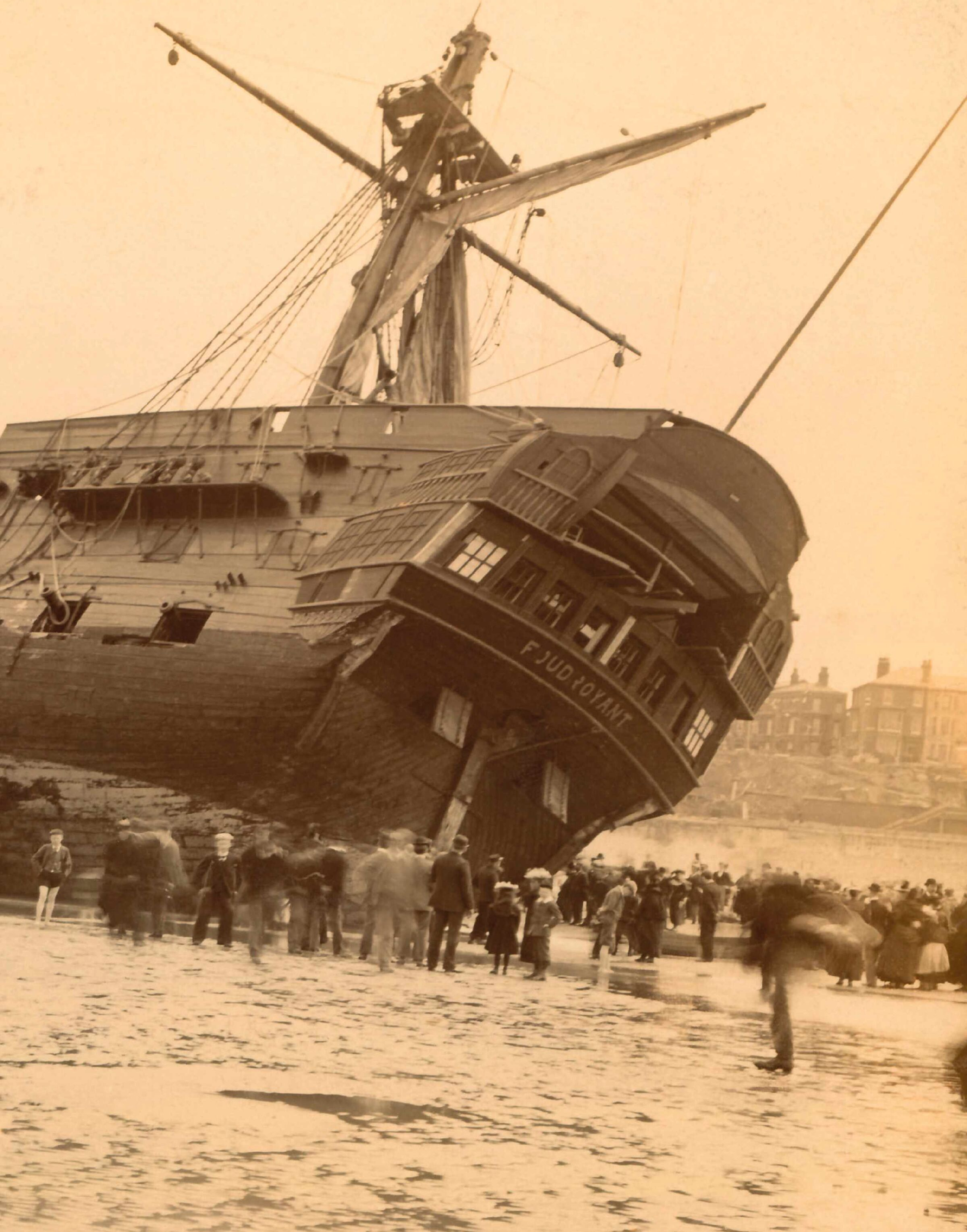
FOUDROYANT

SNAPSHOTS

1877

WHEELER DEALER

A Victorian 'fancy ware' dealer showcases ornate trinkets from his barrow in this image captured by John Thomson. It featured in Adolphe Smith's 1877 book, *Street Life in London*, which aimed to depict the everyday lives of London's 'street folk'. Their anthology has been credited as the first case of social documentary photography. Both men regarded this visual inclusion as continuing the social reform work begun by Henry Mayhew, co-founder of the satirical magazine, *Punch*. The book includes scenes of flower-sellers, chimney sweeps, musicians, dustmen and locksmiths, providing a vivid, faithful representation of London's working-class poor.

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HISTORICAL CONSULTANT FOR THIS ESSENTIAL GUIDE

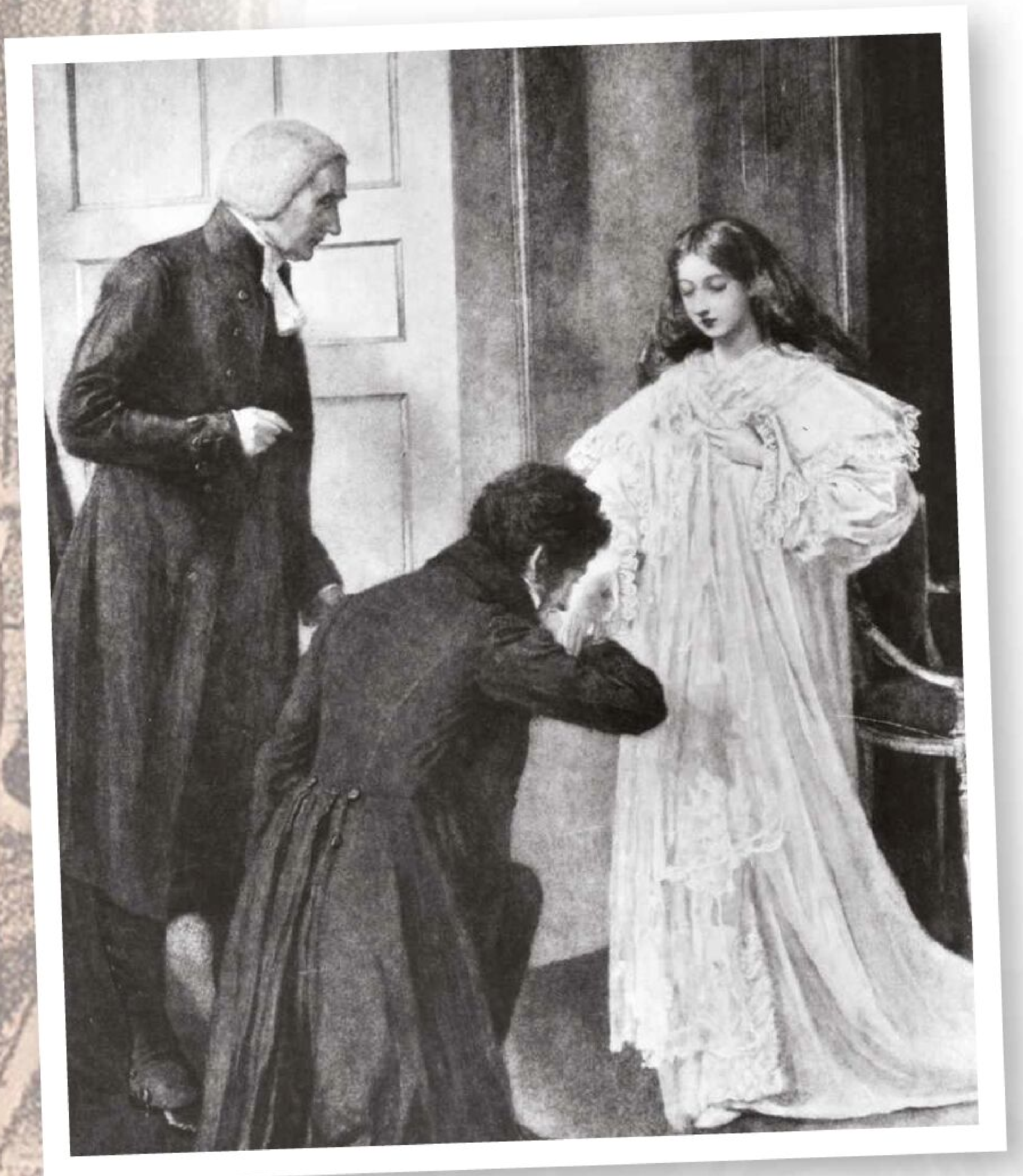
SARAH RICHARDSON is professor of history at the University of Warwick. She has written widely on the Victorian period, specialising in women and political culture in late 18th and early 19th-century Britain.

EVERYTHING YOU WANTED TO KNOW ABOUT THE VICTORIANS

Professor Sarah Richardson answers key questions about one of the biggest periods in British history

Q: When did the Victorian era begin and end, and when did it first start being referred to as such?

A: It starts officially in 1837, with the accession of Queen Victoria and ends in 1901 when she dies. The first mention of the term 'Victorian' was in a literary magazine in 1839, two years after her accession. That's the strict meaning of 'Victorian' at least – pertaining to the reign of Queen Victoria. But it's used more figuratively to talk about the whole of the 19th century or to talk about attitudes and behaviours of the period.



Woken from her sleep, the young Victoria receives a kiss on the hand having been told of her accession following the death of William IV

Q: Why do you think we're so fascinated by the Victorians?

A: It's an incredibly exciting era of history; a transformational period in terms of huge rises in population, the transfer of people from the countryside to the city, and the establishment of the sort of great cities that we know and love, like Birmingham or Manchester. And Victoria lives a long time, which perhaps seems an obvious thing to say, but when you have monarchs that have very, very long reigns, they give a sort of stability and shape to a period.

We tend to think of the Elizabethan era, for example, as one of the golden ages of English history. And the Victorian period is an equivalent in a way – most of the 19th century is presided over by one person. And that gives it a sort of character and attraction.

It's a hugely important age in terms of culture and industry as well: there are countless new technological innovations, such as the railways. And the novel gets established in this period, so we have incredible writers like Charles Dickens, William Thackeray and George Eliot recording and analysing social and economic conditions in Britain at the time as well. So, the Victorians' popularity is a perfect storm of all these elements really, which makes it an incredibly exciting period.

The 19th century is also one for which we have a lot of historical information. One of the major sources for historians is the census, which begins in 1801, and from 1841 onwards, you can find out quite detailed information on everybody – from the queen downwards. You can find out the size of a household; where they were born; what jobs they did; who else lived in the house, and so on. Most early modern historians would give ▶

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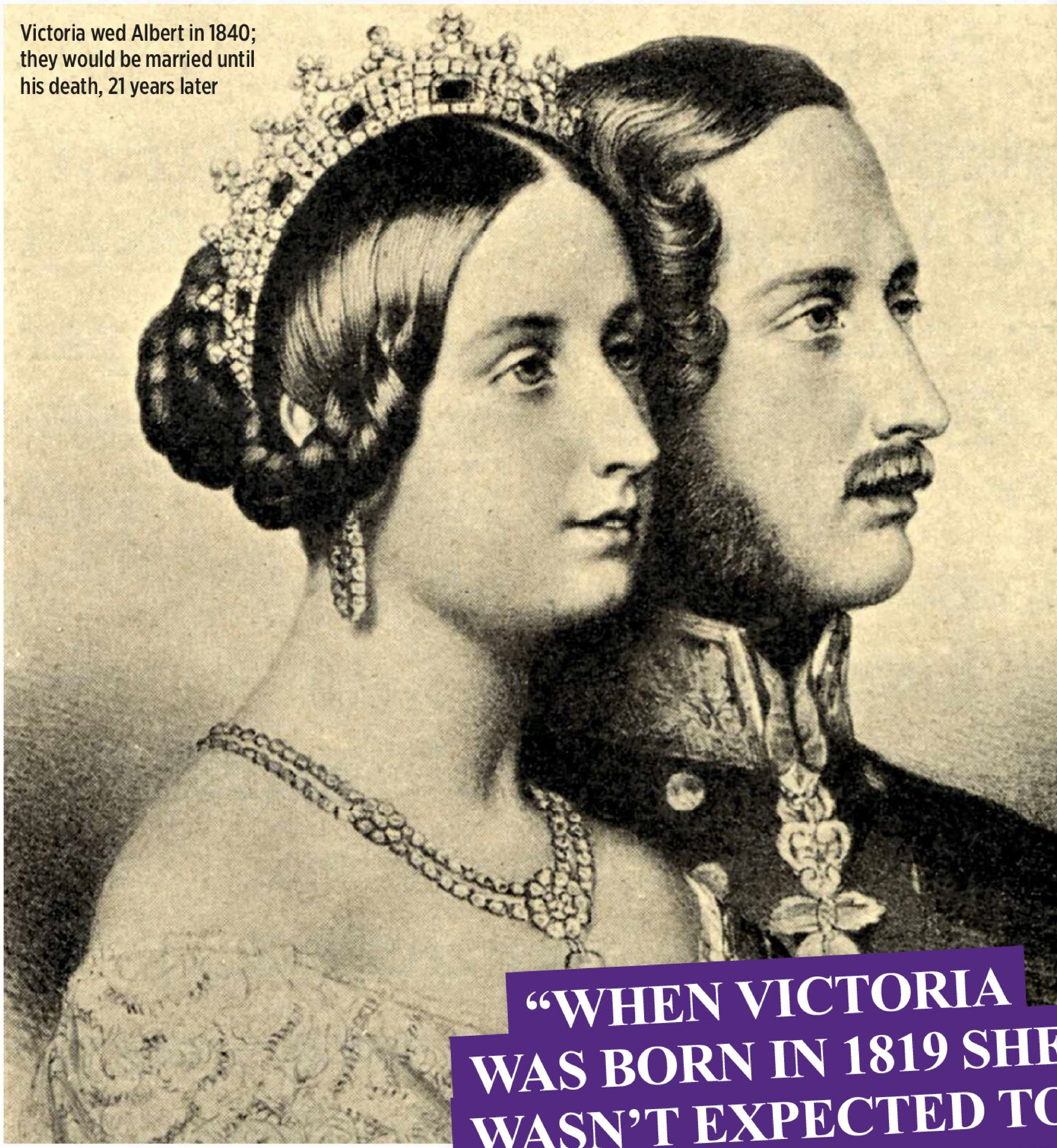
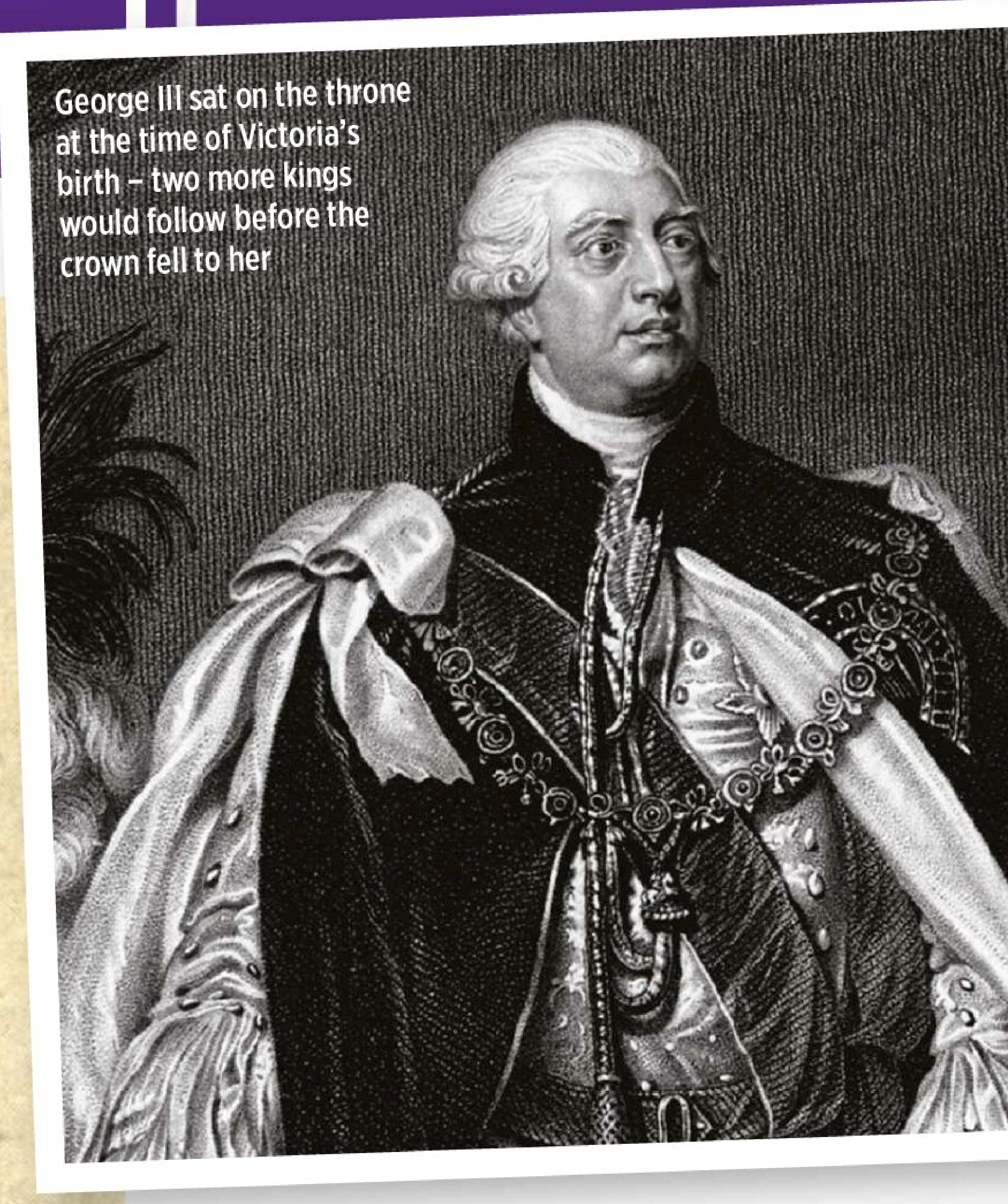


Victoria wed Albert in 1840; they would be married until his death, 21 years later



George III sat on the throne at the time of Victoria's birth – two more kings would follow before the crown fell to her

> "WHEN VICTORIA WAS BORN IN 1819 SHE WASN'T EXPECTED TO BECOME QUEEN – SHE WAS THE DAUGHTER OF THE FOURTH SON OF GEORGE III"

◀ their eye teeth to have a source like that, where you can actually drill down and find out about the lives of ordinary people, as well as those of the great and the good.

Q: How popular was Victoria as a monarch?

A: Initially, there was quite a lot of anxiety. Her succession was not a given, and certainly when she was born in 1819 she wasn't expected to become queen. Victoria was the daughter of the fourth son of George III, so there were three sons above her father who could have had legitimate children, but didn't. So she wasn't brought up to be a monarch.

There was some anxiety at her accession because she was very young – just 18 – she was a woman, and she wasn't necessarily all that well-known to the British public. She married Albert quite early in her reign, but there were always concerns that she was being influenced by politicians at the time. This was always a fear surrounding a female monarch – who were the men who might be around and influencing her? Once she married Albert, in 1840, they did become a popular royal couple, and they idealised the idea of marriage and the family. But Victoria's public image was limited somewhat by the fact that, for much of her early reign, she was pregnant and so out of the public eye – between 1840 and 1857 she had nine children.

When Albert died, in 1861, Victoria's popularity fell as she withdrew completely from public life, to the extent that there was even a rise of a Republican movement. But towards the end of her reign, as she re-emerged into public life once more, her popularity rose, too. And by the time she dies in 1901, Victoria was very well thought of by the general public and was regarded as a monarch who had presided over the rise of democracy, the growth of the Empire, British prosperity and so on.

Q: How and why did Britain avoid the sort of revolutionary change seen elsewhere in Europe in the 18th, 19th and 20th centuries?

A: It certainly wasn't a given in the 19th century that Britain would not see revolution. In the 1840s, support for the Chartists – a movement that campaigned for political rights and influence for the working classes – was at its highest. In 1848, a huge Chartist meeting was held on Kennington Common, with upwards of 20,000 people present. Although the meeting was peaceful, 1848 was a year which saw a wave of revolutions in Europe, in places such as Sicily, France, Germany, Italy, and the Austrian Empire, and there was a lot of anxiety that Britain would see the same. Victoria and Albert were quickly taken from London to Osborne on the Isle of Wight, but interestingly, Albert actually had a lot of sympathy for the working classes and their politics. In hindsight, we know that 1848 was really the last hurrah for the Chartist movement and there wasn't a revolution in Britain. But at the time it wasn't certain.

There are several reasons why revolution was less likely in Britain, one of which being the fact that there was more democracy in Britain than there was elsewhere in Europe. We didn't have the sort of absolute monarchy like they did in France, for example, or in Austria and Hungary – the British monarchy had already ceded some of its powers in 1688, when Parliament had been established

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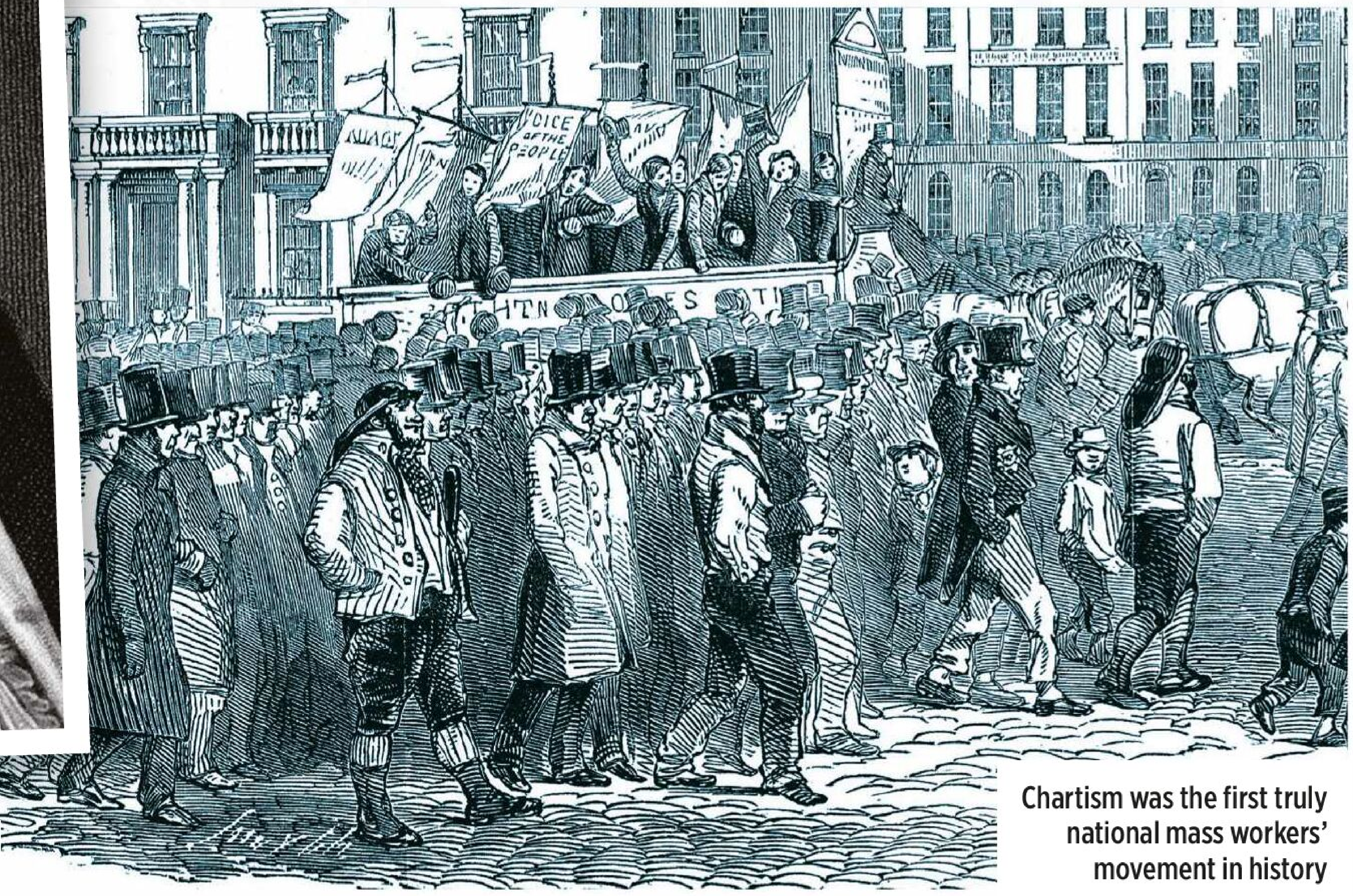


Chartism was the first truly national mass workers' movement in history

as the ruling power of England (later the United Kingdom) and the monarchy had become constitutional rather than absolute. What's more, in 1832, a small measure of enfranchisement had been granted, albeit mainly to the middle classes. Cities like Birmingham, Manchester, Leeds and Sheffield had all been enfranchised and had MPs for the first time, meaning that their voices could be heard in parliament. So, I think there were big differences between Britain and the rest of Europe during this period, which meant the conditions for revolution were less likely.

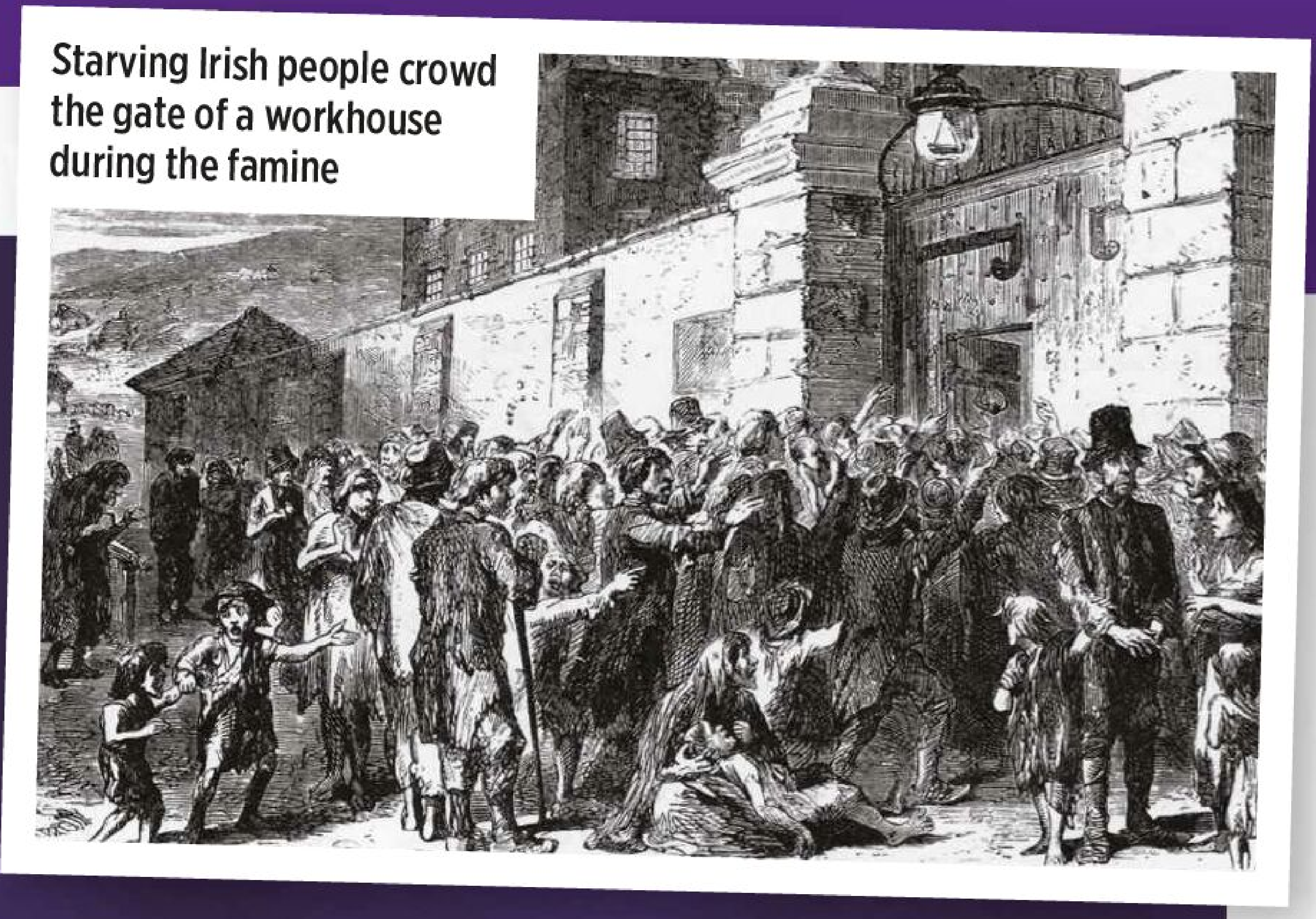
Q: How did Victorian influence affect life across the British Empire?

A: It differed from place to place. Colonies were often ruled by governors who were there to represent the British state and the queen on the ground. Their position, attitudes and ideologies could dramatically influence the relationships between colonised populations and the British. It wasn't always easy because a lot of these territories were vast and difficult to manage, particularly from London, so the British army, for example, was very important in maintaining law and order, or quelling rebellion in places such as India.

Things weren't the same across the whole Empire, though, and in some cases, British colonies were actually ahead of Britain in terms of democracy and so on. Women were enfranchised in New Zealand and Australia, for example, well before women in Britain, and proportional representation (where seats in parliament are allocated in proportion to votes cast) was introduced in Adelaide, South Australia in the 1830s. So, in many cases, states within the Empire were able to establish their own forms of government.

▶

The Kate Sheppard National Suffragists Memorial, commemorating womens' suffrage, in New Zealand – the first nation in the world in which all adult women gained the right to vote in elections



Starving Irish people crowd the gate of a workhouse during the famine

THE IRISH POTATO FAMINE

The British response to an agricultural disaster left a lot to be desired

The Potato Famine of 1845-49 was a watershed moment in Britain's long history with Ireland, and the story of how a million deaths from mostly preventable disease and hunger happened on the doorstep of the world's wealthiest country still shocks.

Almost all of the exportable food produced in Ireland during the Victorian period was transported to mainland Britain. Controversial Corn Laws imposed tariffs on imported grain and kept prices of locally produced food high so, increasingly, the Irish became almost wholly dependent on potatoes, which were cheap, easy to grow and calorie dense but, as it turned out, genetically weak and prone to disease. Nevertheless, potatoes accounted for 60 per cent of Ireland's entire food needs, with no affordable alternative in event of failure.

By August 1845, a potato blight had reached Britain and continental Europe from America. Between a third and half the crop was ruined in 1845, and in 1846, up to 75 per cent of the potato harvest was inedible. Conservative Prime Minister Sir Robert Peel initially imported £100,000 of Indian grain to Ireland, established a programme of public works to provide people with a subsistence wage to purchase alternative food supplies, and repealed the Corn Laws. But his successor, Whig PM Lord John Russell, took a more fundamentalist approach, based on the popular ideologies of the era: self-help and *laissez-faire*, which opposed the provision of charity. Though a soup-kitchen system was established, it was abandoned after six months of operation.

The British government's failure to act and its incomprehension of the severity of the situation casts a dark shadow on the Victorian era, and it was widely criticised both in Ireland and elsewhere – political journalist John Mitchel wrote: "The Almighty, indeed, sent the potato blight, but the English created the famine".

Of a pre-famine population of some eight million, over a million Irish people died of hunger and famine-related diseases, with many others forced to flee their homeland. In less than a decade in the mid-19th century, the population of Ireland plummeted from 8.25 million to just over 6.5 million.

VICTORIANS IN NUMBERS

The Victorian era is big – but just how big are we talking?

400,000

Number of people who gathered in London for Victoria's coronation in June 1838

2.5 BILLION

Coins produced by the Royal Mint during Victoria's reign

23,226

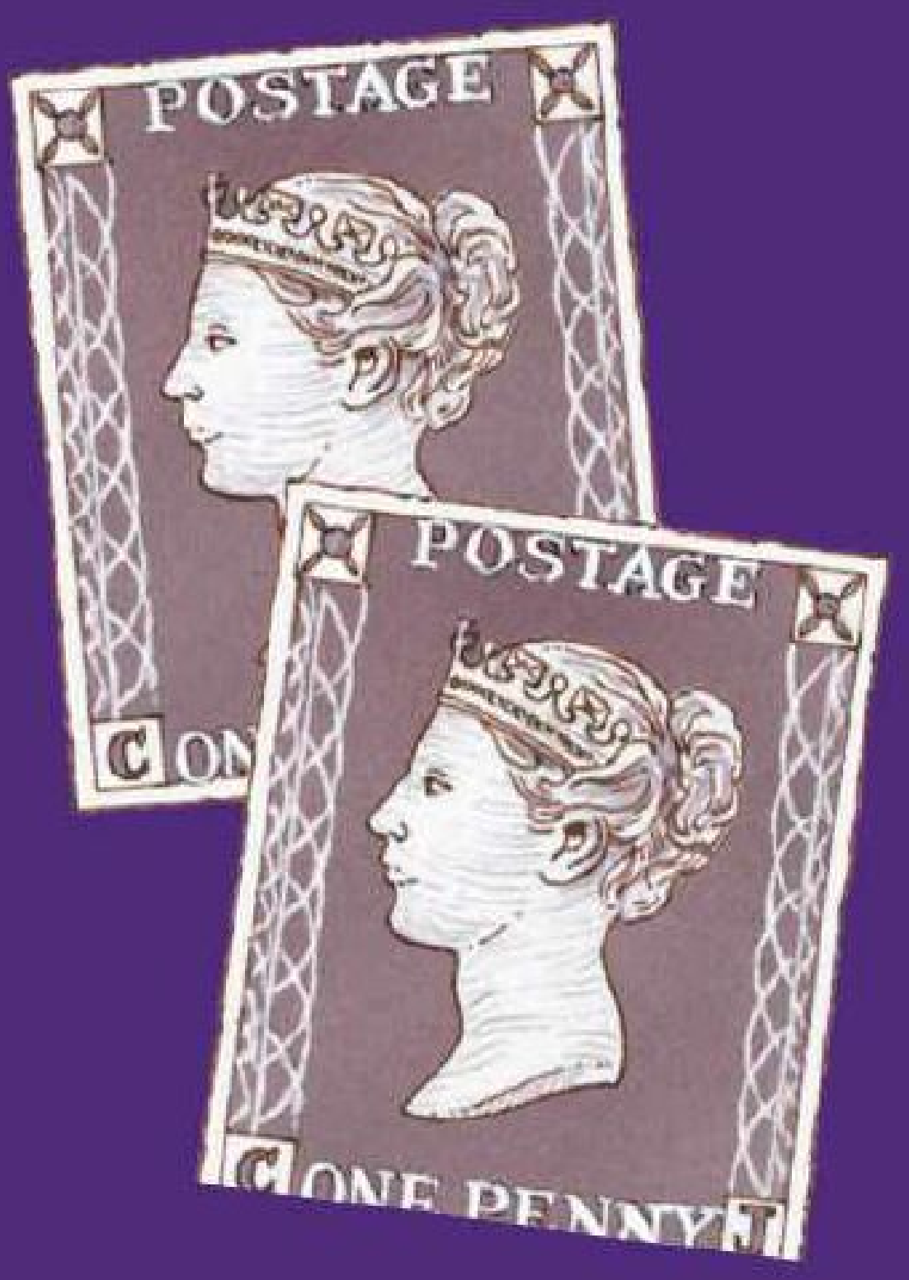
Number of days that Victoria ruled (that's 63 years, seven months and two days)

10

Number of British prime ministers during Victoria's reign

350 MILLION

Number of letters being sent every year in the decade following the introduction of the penny post



121.3 MILLION TONS

Output of coal per annum from British mines by 1870

16 MILLION

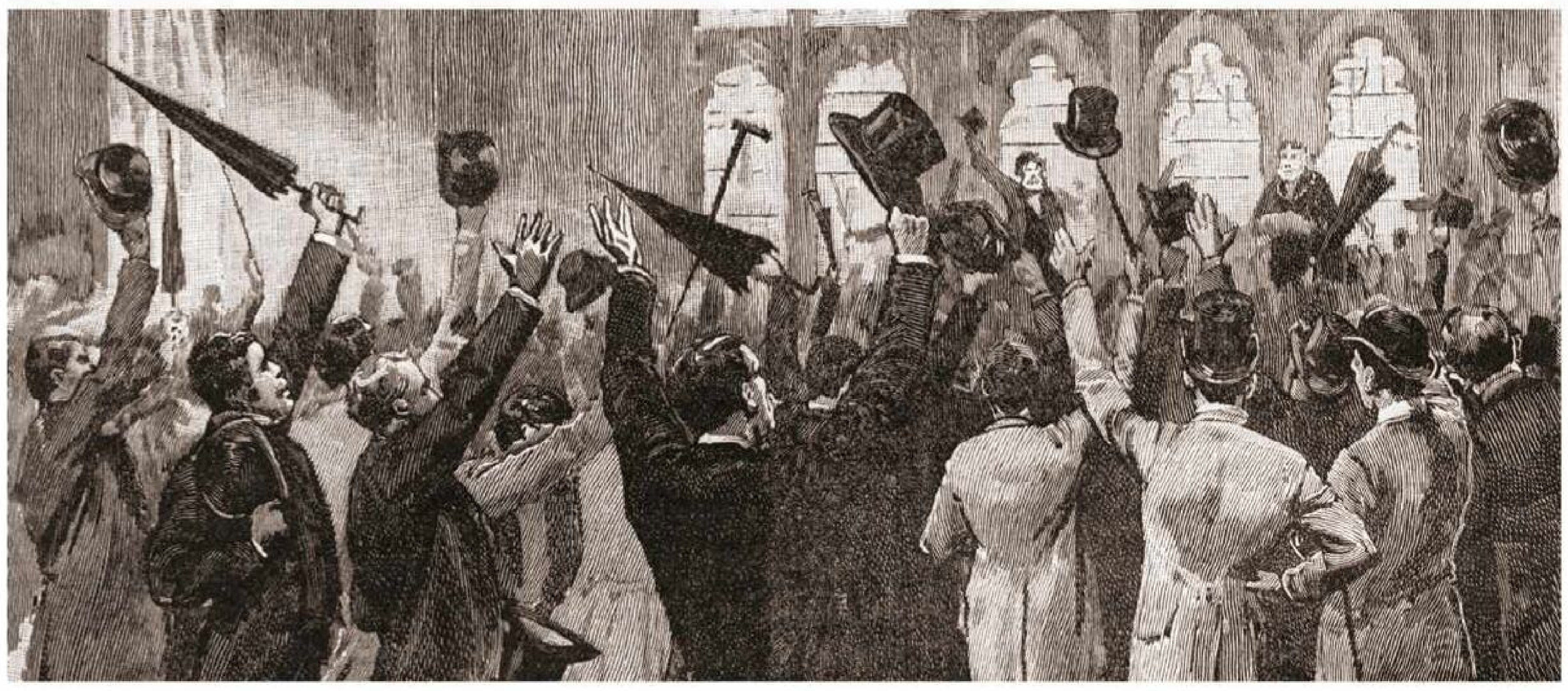
The population of England, Scotland and Wales in 1837

60,000-70,000

Number of deaths from tuberculosis in each decade of Victoria's reign

7,000 MILES

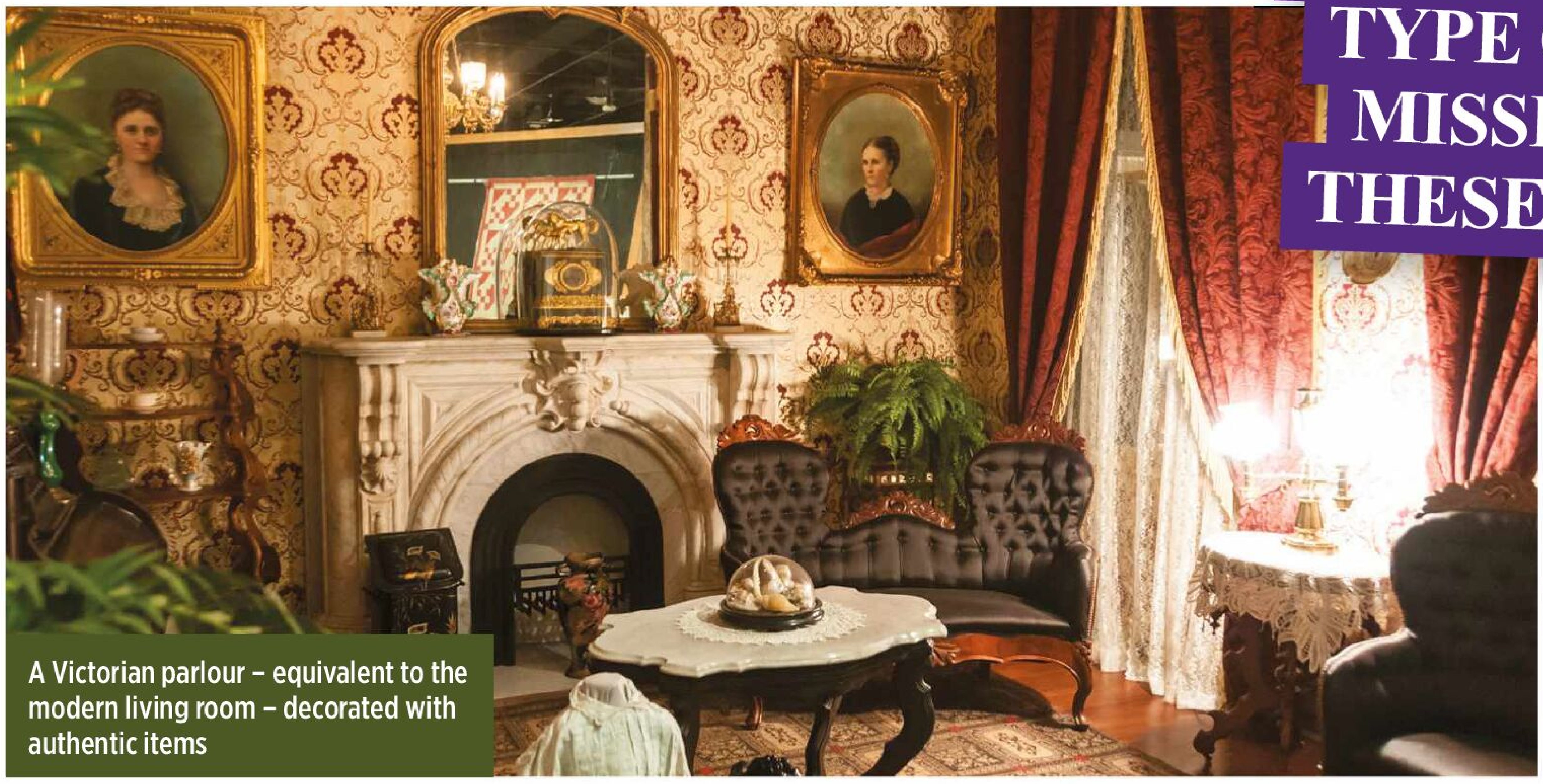
Distance of railway line that had been laid across England by 1850



These men are singing 'MacDermott's Warsong' in 1877, a bellicose ballad boasting of Britain's military prowess that contains the phrase 'by jingo' – and later led to the coining of phrase 'jingoism'

A woman weaver labours at the loom in Merton Abbey Mills in South London, in the late 19th century. Many raw materials for the textile industry at large were ferried to Britain from across the Empire

> "BRITAIN'S DESIRE TO EXPAND ITS EMPIRE WAS REALLY SEEN AS A TYPE OF 'CIVILISING' MISSION – TO 'SAVE' THESE POPULATIONS"



A Victorian parlour – equivalent to the modern living room – decorated with authentic items

Q: How did the Victorians view the people and places they were colonising?

A: Britain's desire to expand its empire was really seen as a type of 'civilising' mission – a mission to 'save' these populations from tribalism and paganism and that sort of thing, a way to export British values of democracy, liberalism and Christianity. And as photography starts taking off, people can actually see some of these exotic places that previously they had only heard about – as a result they become more real to people. But it's still a very constructed view of the British heading out to 'save' these populations.

Q: How aware would ordinary people have been of Britain's influence overseas?

A: The main sort of source of information for most people would have been industry – Britain's textile districts were dependent on raw materials being brought into Britain from the Empire to fuel the nation's industrial development. There were also a number of wars and conflicts during the 19th century, such as the South African Wars and the Crimean War (*see p34*), which would have captured the public's imagination and inspired patriotism and even what's known as jingoism – a sort of glorying in the British Empire. So yes, I think there was a reasonable sense of what the Empire was providing and particularly its importance to the British economy.

There was also a sort of professional exodus from Britain in the 19th century, as people left Britain to settle in the Empire, in places like New Zealand, Canada, South Africa and India – people who worked in the civil service or fought with the army, or industrialists looking to exploit resources and territories overseas.

Q: The Victorians are often seen as being prudish and disapproving. Is this a fair assessment?

A: When people talk about Victorian values, they're really talking about a middle-class view of values – hard work, self-improvement, that type of thing. And these are the sorts of values we associate with the Victorian era.

I think the idea of Victorians being a bit prudish is accurate to some extent, in that we have conduct and advice manuals from the era which put forward views of acceptable behaviour, but perhaps not as much as we might expect. We also have to understand that scientific knowledge and information about things like sexuality and menstruation were much less advanced in the 19th century than they are today. So, there were a lot of myths around certain behaviours.

There has been a lot of research recently on homosexuality in the Victorian period, for example, which indicates that homosexual desire was actually pretty tolerated until the 1880s, when the laws changed and homosexual acts of 'gross indecency' were criminalised, making it easier to prosecute.

Another area of misunderstanding is prostitution, something we assume would have horrified Victorian sensitivities. Obviously, there was great moral outrage against prostitution, but for many working-class communities, it seems women sort of drifted in and out of prostitution depending on their circumstances. So, communities would often tolerate women who engaged in sex work, and viewed them as simply trying to survive rather than as 'career' prostitutes. So, like many other elements of the Victorian era, it's a contradictory picture in many ways. ⊙

INTERVIEW: RACHEL DINNING

SARAH RICHARDSON is professor of history at the University of Warwick. She has written widely on the Victorian period, specialising in women and political culture in late 18th and early 19th-century Britain

GETTY IMAGES X6

THE VICTORIANS AND THE EMPIRE

Queen Victoria's reign saw Britain dominate the world stage, spreading its power, influence and beliefs across the known world

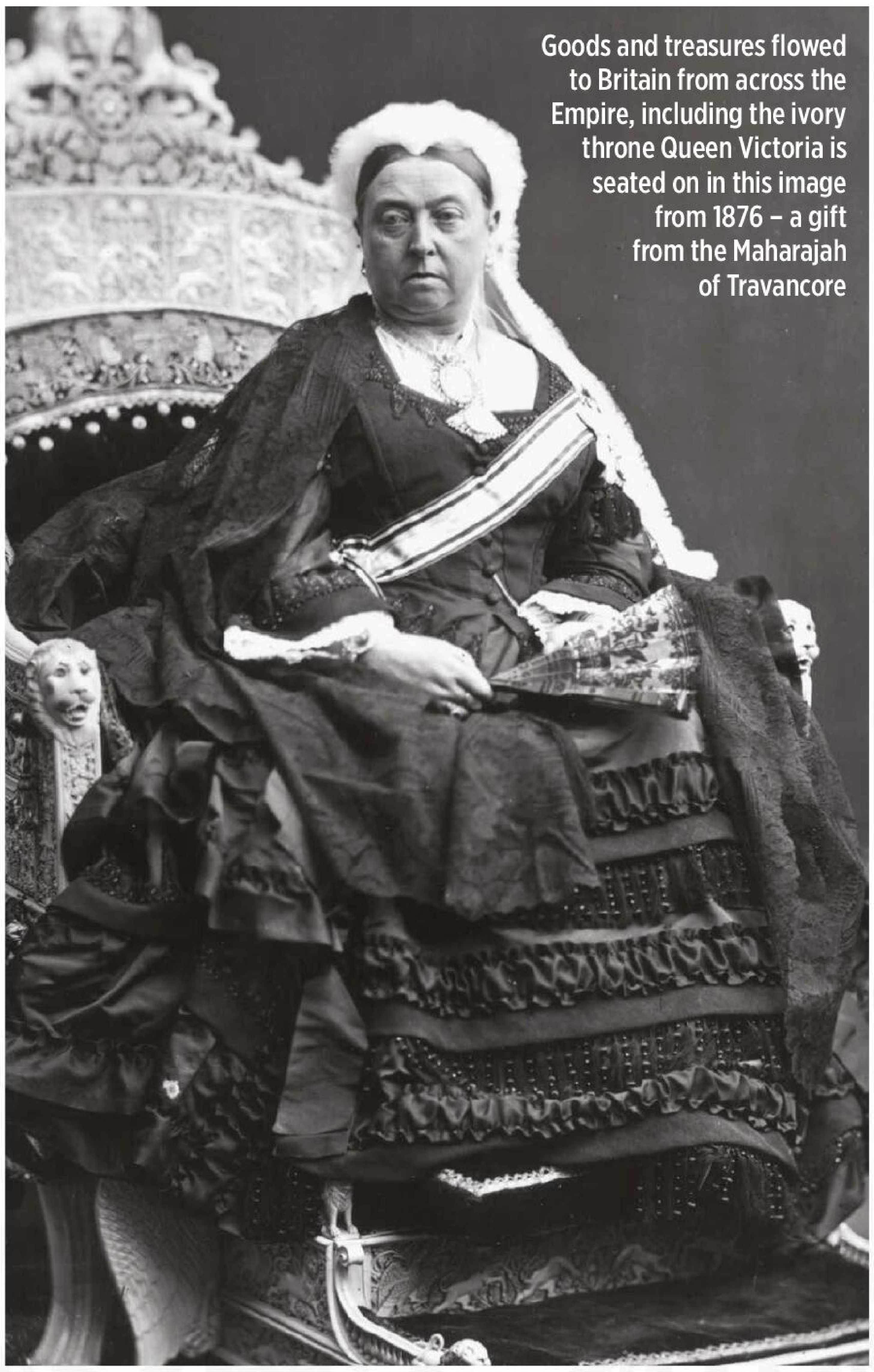
When Victoria ascended the throne in 1837, the British Empire was a loose assortment of colonies mostly accrued for reasons of trade. By the time of her death nearly 64 years later, the Empire had expanded to become a coherent and dominant show of economic and political strength. As head of state, Victoria had presided over nearly a quarter of the world's population.

At the turn of the 20th century, the Union flag was raised right across the map: from the farthest reaches of North America, across the Caribbean, over large swathes of Africa, throughout the Indian subcontinent and as far distant as Australia and New Zealand. The cliché was that Britain's influence, power and control was so far-reaching, so all-encompassing, that the Sun never set on its empire. And it was true.

"The loss of America in the 18th century, following the American War of Independence, had been an immense blow to Britain's confidence," says Sarah Richardson, professor of history at the University of Warwick, "and at Victoria's accession, the British Empire was in a state of flux. But by the end of the 19th century, Britain's existing empire had expanded beyond recognition, and colonisation had become a moral mission to share and spread British values across the globe."

Powered by the Industrial Revolution, which had put itself at the forefront of global manufacturing, Britain was eager both to develop new markets for its goods and to secure easy access to raw materials from elsewhere in the world. The expansion of Britain's industries, and the hugely positive effect on its economy, was dependent on the expansion of its empire. The result was a complex tangle of trade, politics and governance, with the traffic – both of goods and people – going in either direction. Britain needed raw materials and cheap labour; in return, it offered its colonies technical advances (such as the railway) and societal improvements, such as medicine and education. The latter, though, often came with the imposition of a certain way of life – and occasionally a certain level of brutality.

Expanding in the manner in which it did during the 19th century, the British Empire was significantly aided by the comparative weakness of other imperial European powers. Having defeated France in the Napoleonic Wars (1803-15), Britain found itself unrivalled when it came to both military and economic power. For the next 100 years, it encountered very little military conflict between the great powers; the century between 1815 and 1914 became known as the *Pax Britannica* – Latin for 'British Peace'.



Goods and treasures flowed to Britain from across the Empire, including the ivory throne Queen Victoria is seated on in this image from 1876 – a gift from the Maharajah of Travancore

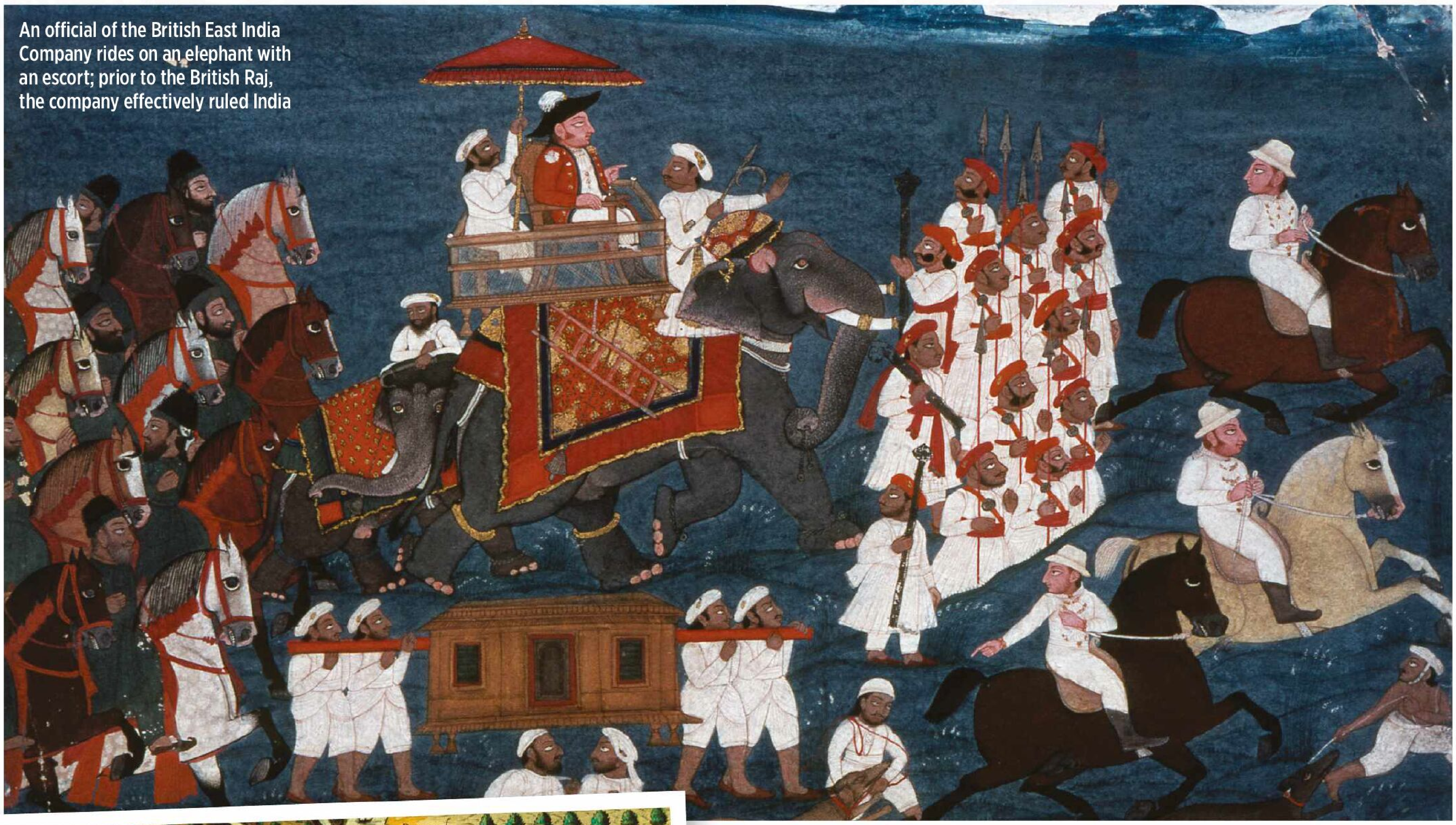
GETTY IMAGES X2

A TUDOR DREAM REALISED?

The notion of a British Empire was not a 19th-century one. It had its origins in the early days of the House of Tudor when, at the end of the 15th century, Henry VII commissioned explorers to seek out the most efficient way of reaching India by sea. One such explorer, the Italian John Cabot, inadvertently landed in North America in 1497, possibly coming ashore at Newfoundland, Labrador or Cape Breton Island.

By the time Henry VII's granddaughter, Elizabeth I, reached the throne, English foreign policy was largely based on defence rather than expansion. Nonetheless, in 1584 Walter Raleigh was granted a royal charter to establish a settlement in North America, sending a group of settlers to Roanoke in Virginia the following year to set up a colony. It was the first attempt at the English colonisation of what would later become the United States.

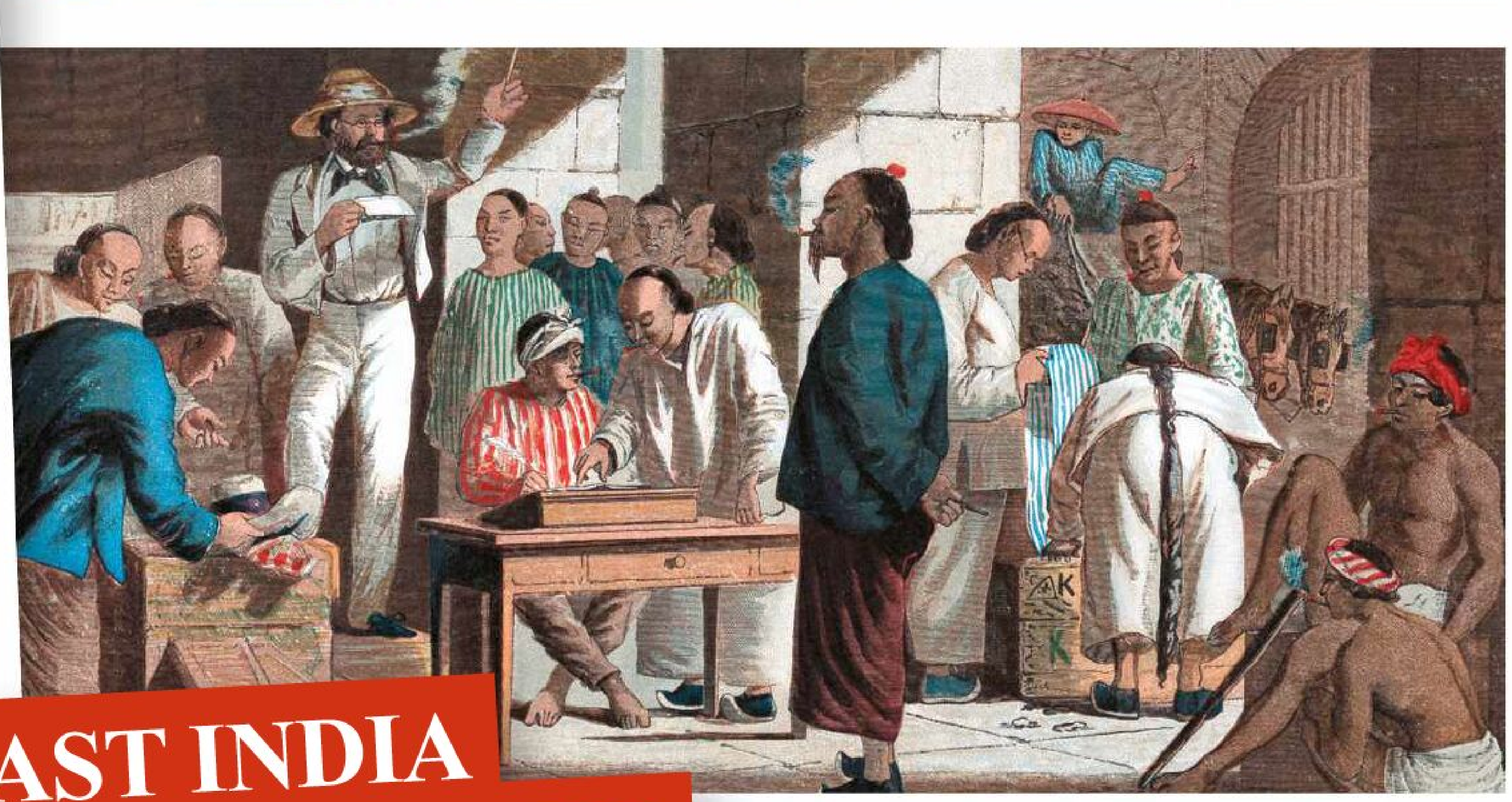
In 1600, Elizabeth granted a royal charter to the East India Company, with the express purpose of trading extensively in the Indian Ocean region and beyond, an area where both the



An official of the British East India Company rides on an elephant with an escort; prior to the British Raj, the company effectively ruled India

SECOTAN
WEAPEMEOC
Pasquenoke
Roanoac
Trinety harbor
Hatorask

Walter Raleigh sent the first colonists to Roanoke in 1585, but they abandoned the settlement the following year



British goods are sold in Canton (now Guangzhou) in this 1858 print. Britain gained access to Chinese trade through gunboat diplomacy – the two Opium Wars

> “THE EAST INDIA COMPANY WAS NO MERE COMMERCIAL BODY: IT BLURRED THE DISTINCTION BETWEEN TRADE AND POLITICS”

Portuguese and the Dutch already had well-established trade networks. The East India Company became extraordinarily successful, expanding rapidly to the point where it was controlling half of the world’s trade.

The East India Company was no mere commercial body, though; it blurred the distinction between trade and politics. By the turn of the 19th century – and aided by its own private army, whose number was twice that of the British Army – it effectively ruled, through the installation of puppet leaders, a very large proportion of India. The company also played a huge part in opening China up to trade, thanks to its cultivation of opium in Bengal, and its subsequent export to the port of Canton, which led to the two Opium Wars between Britain and China. The upshot of the First Opium War was the ceding of Hong Kong in 1842, a territory that would become a keystone of the British Empire for many subsequent decades.

Speaking in the House of Commons in 1833, the MP Thomas Babington Macaulay observed that the East India Company’s apparent *raison d’être* – trade – had become “auxiliary to its sovereignty”. However, it was living on borrowed time. After the Indian Rebellion, which began in 1857, the company was abolished, with the subcontinent coming under the direct control of the crown – known as the British Raj.

“When Victoria came to the throne, Britain’s most important colony was India. Victoria herself became Empress of India in 1877 and she viewed the

▶

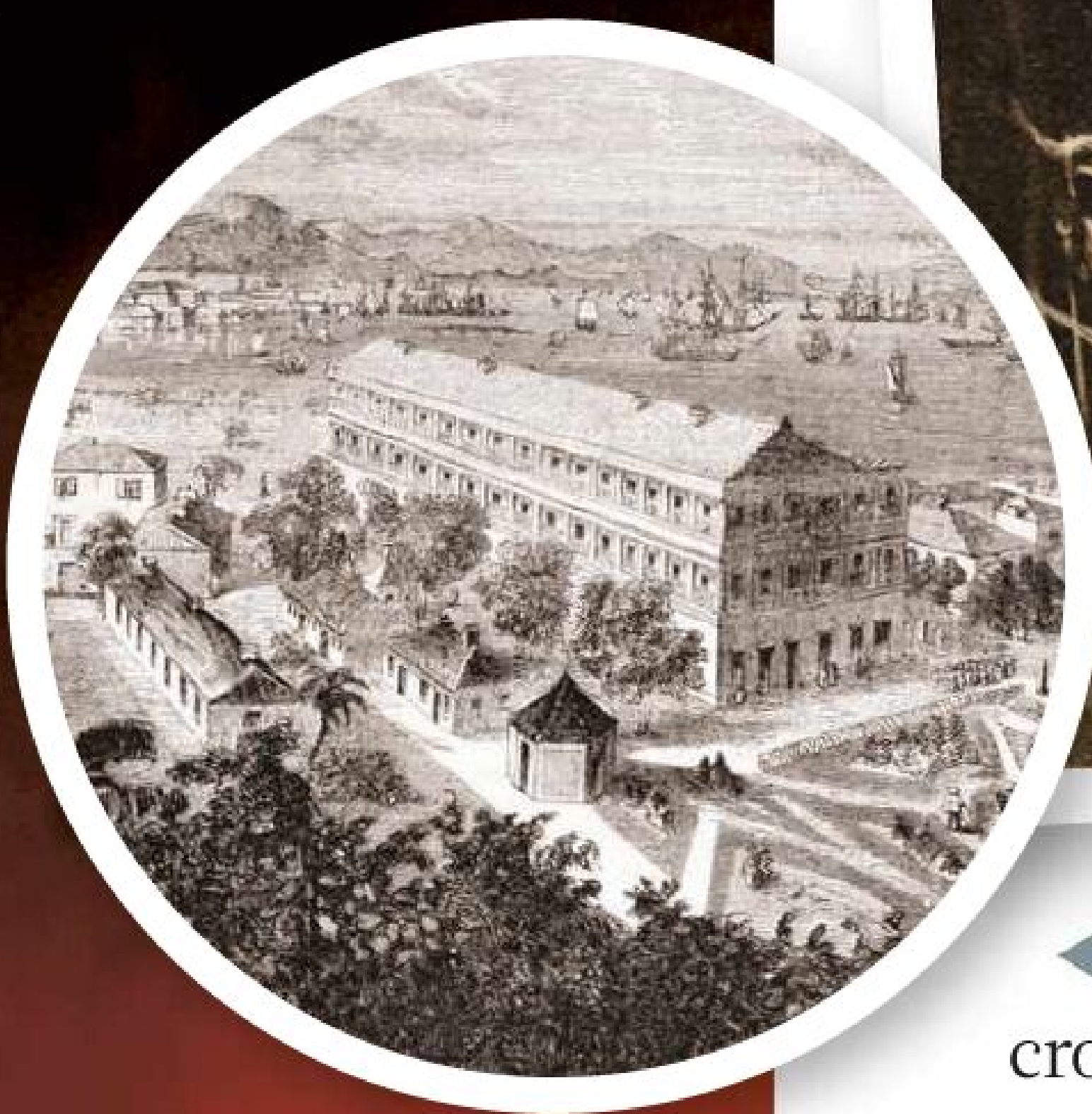
GETTY IMAGES X3

KEY EVENTS IN THE 19TH-CENTURY EXPANSION OF THE BRITISH EMPIRE

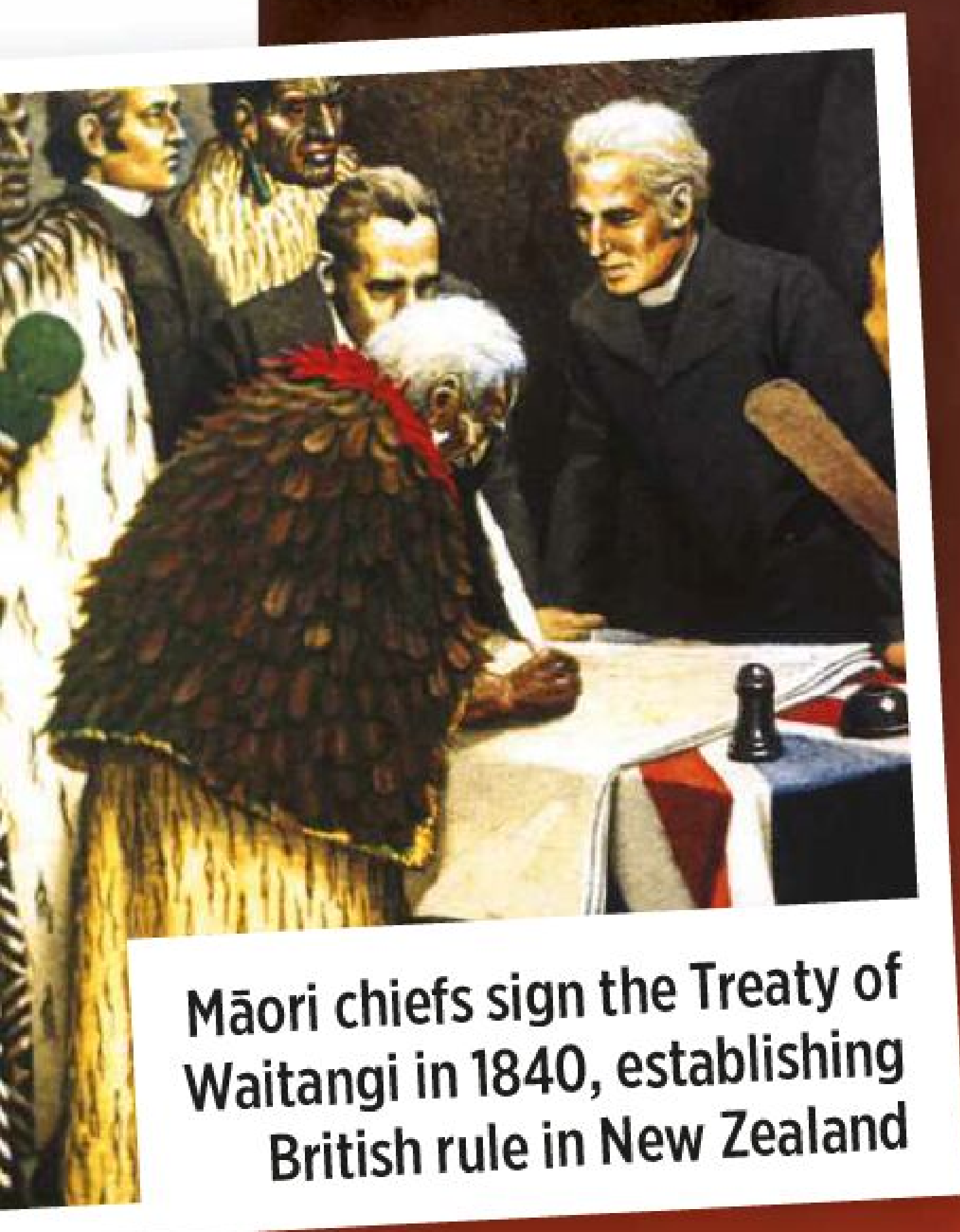
Across a span of just 100 years, British influence spread rapidly across Africa, Asia and the Pacific

Year	Event
1802	Ceylon (present-day Sri Lanka) is declared a crown colony
1808	The crown colony of Sierra Leone is established
1813	The islands of Malta and Gozo are formally annexed
1831	The colony of British Guyana is formed
1841	The colony of New Zealand is formed
1843	▶ Hong Kong becomes a crown colony
1849	The Punjab in India is annexed Vancouver Island becomes a crown colony
1858	The British crown assumes the East India Company's governmental authority in India
1867	Three former colonies (New Brunswick, Nova Scotia, and Canada) unite to form the new nation of Canada
1874	Fiji becomes a British colony
1877	The British High Commission for the Western Pacific Islands is created
1878	Cyprus is occupied by the British
1881 - 1919	The Scramble for Africa: Britain controls territories in Africa stretching from Cairo to Cape Town (*see map opposite*)
1887	The Maldives, an archipelago of 2,000 coral islands, are taken under British protection
1889	Brunei becomes a British protectorate Trinidad and Tobago became a joint colony
1892	The Falkland Islands become a British colony
1896	The Federated Malay States are formed
1899	The emirate of Kuwait becomes a British Protectorate
1901	The six separate British self-governing colonies of Queensland, New South Wales, Victoria, Tasmania, South Australia, and Western Australia form the Commonwealth of Australia

Mines like this one in Kimberley, South Africa, offered up one of the continents most prized resources: diamonds

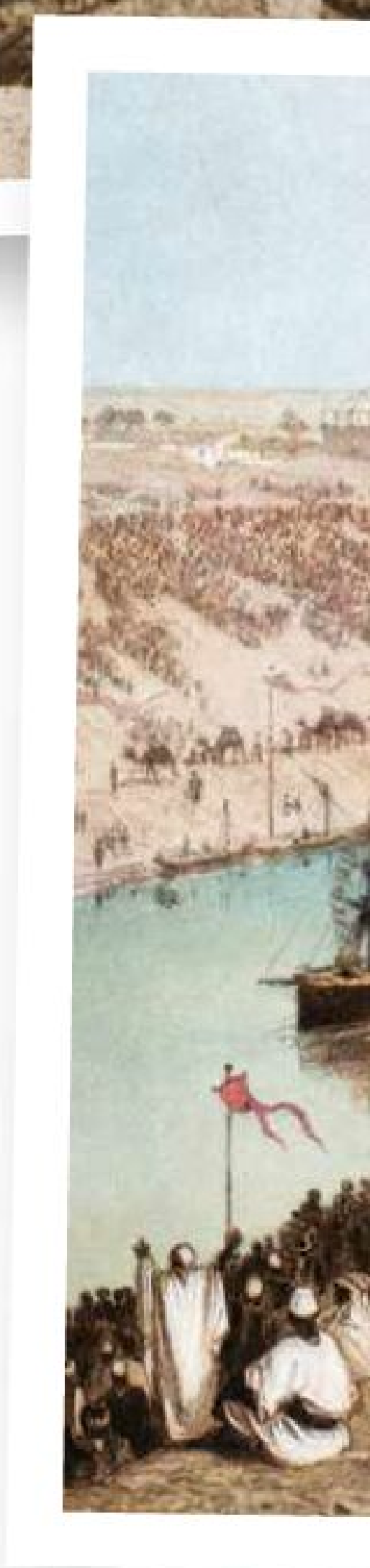


Hong Kong became a valuable trading post for Britain



Māori chiefs sign the Treaty of Waitangi in 1840, establishing British rule in New Zealand

Crowds celebrate the federation of the Australian Commonwealth in Sydney, in January 1901



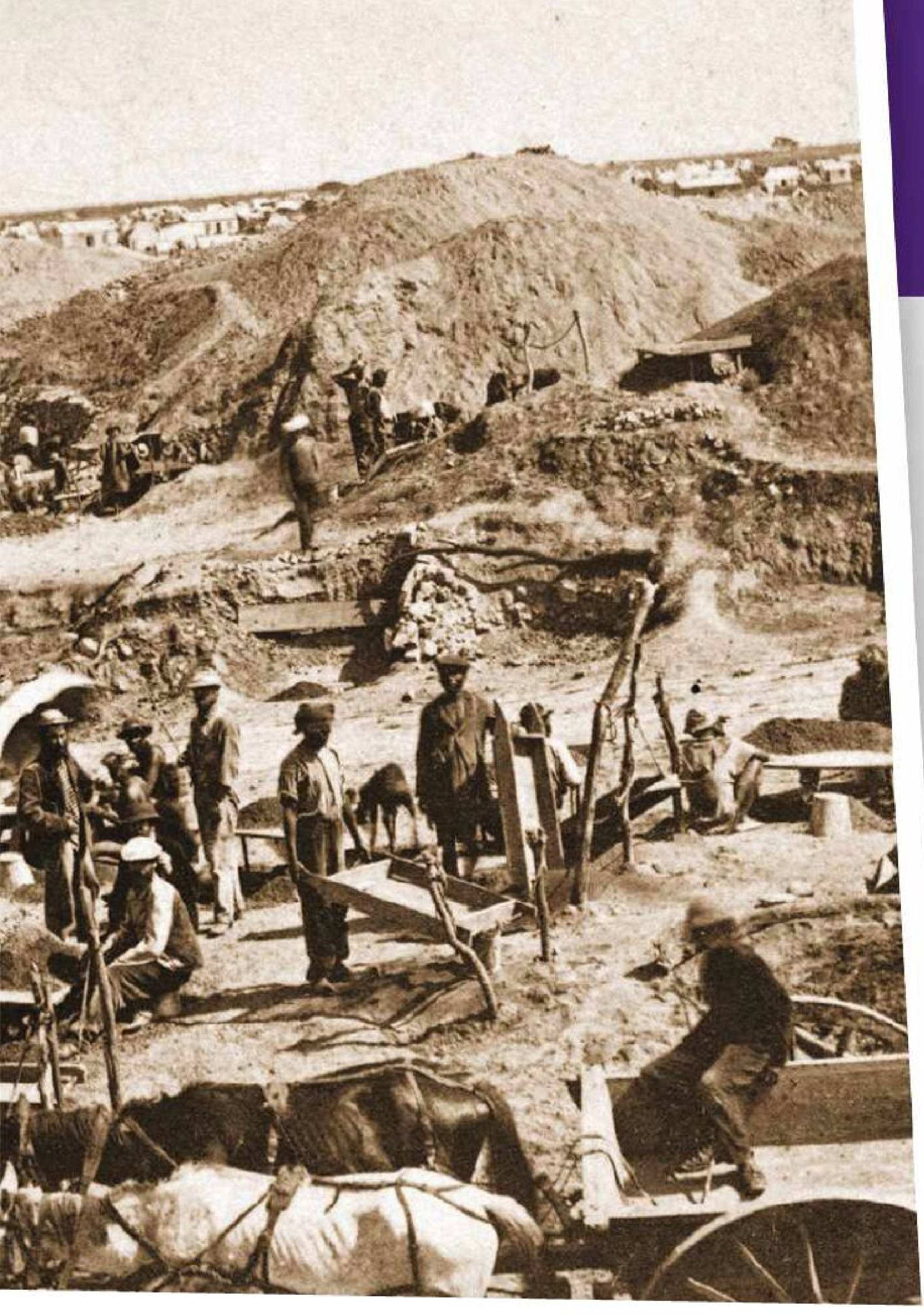
◀ country as the jewel in her crown", says Richardson. "And it is really in India that you can see the foundations being laid for what's often known as a 'moral imperative' for an empire – the idea that Britain had a moral obligation to bring its values of democracy and industry and free trade and all of those sorts of things to other countries. The idea of 'civilising' the people they ruled was very important to the Victorians."

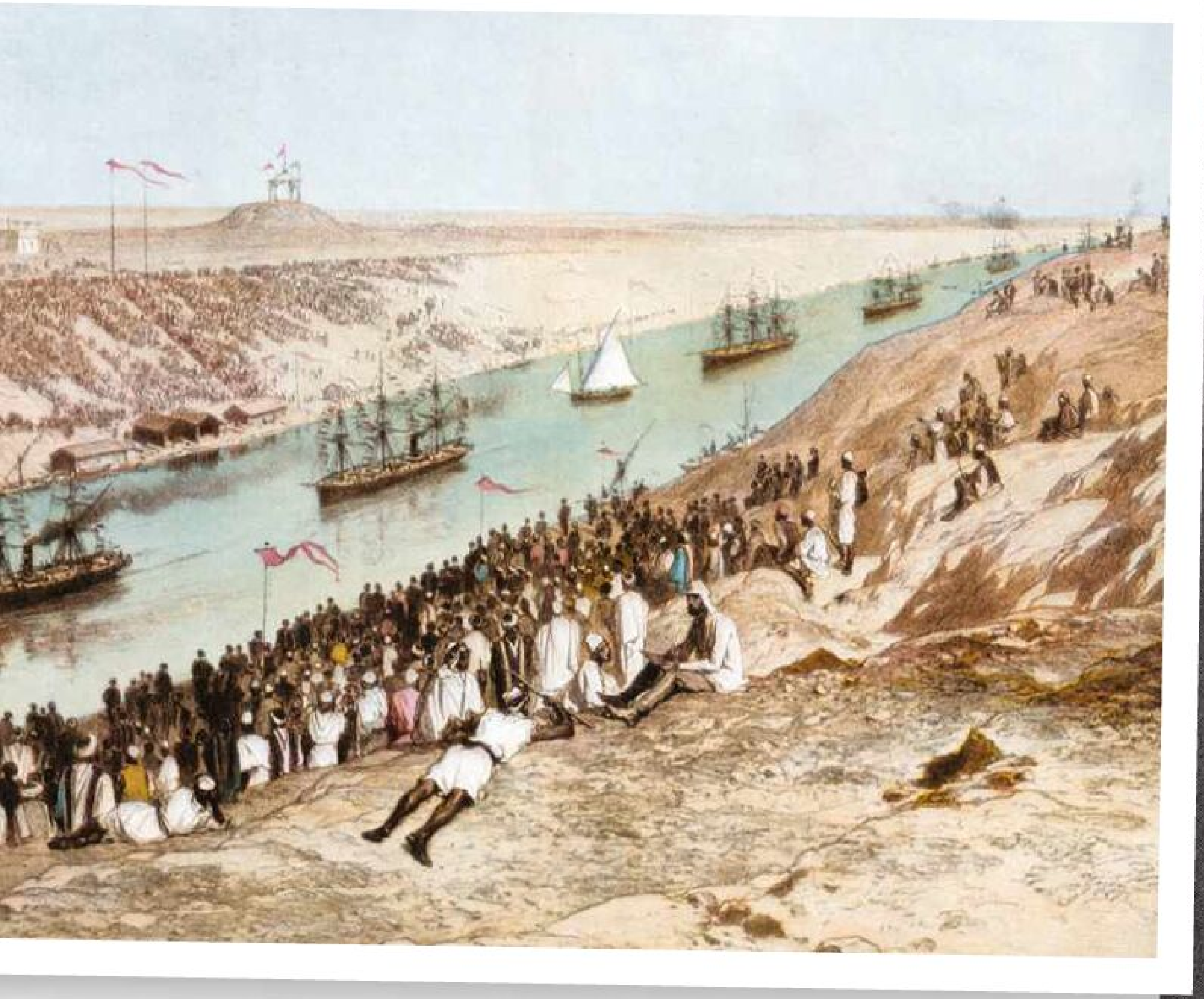
EXPANDING BOUNDARIES

Britain's stronghold in south Asia, both commercially and politically, was further strengthened with the opening of the Suez Canal in 1869, the body of water that offered a dramatically speedier passage to India. In 1882, Britain took control of the canal from the French, a move that precipitated an expansion of the empire's boundaries. Starting in the early 1880s, the so-called 'Scramble for Africa' saw the imperial tentacles stretch deep into that continent.

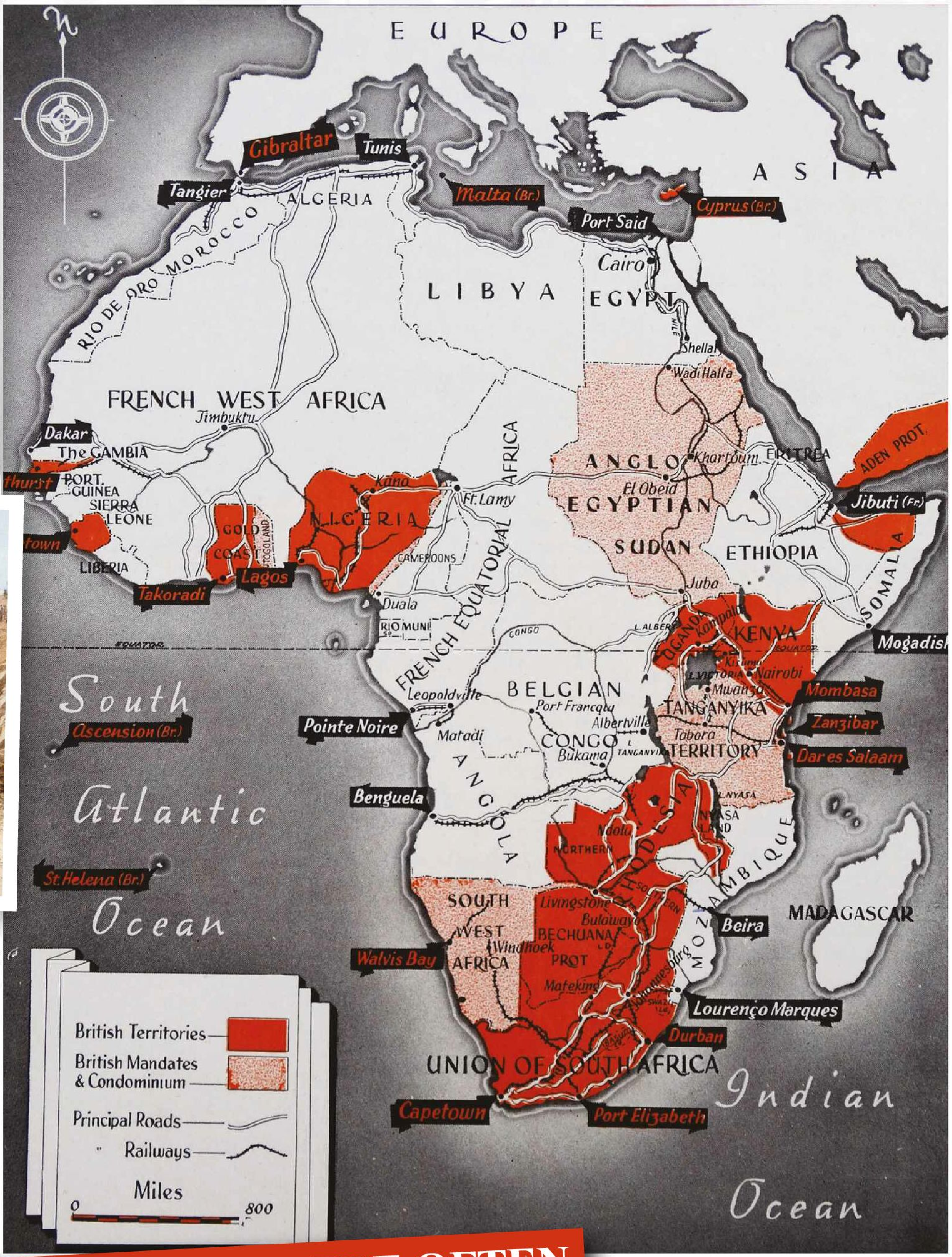
Having already colonised large parts of West Africa – including modern-day Nigeria, Sierra Leone, Ghana and the Gambia – earlier in the century, Britain effectively took control of Egypt, the country that the canal ran through. From there, expansion spread in a southerly direction, through Sudan, Kenya, Uganda and down into southern Africa. By 1902 and the end of the Second Boer War, the map of Britain's African colonies and protectorates traced a huge swathe across the continent, from Port Said in the north to the Cape of Good Hope on the southern tip.

Africa was rich in raw materials and natural resources, such as gold and diamonds. In return, it offered a substantial market for British-





Crowds gathered at the inauguration of the Suez Canal, a prized shortcut in the journey to India


EUROPE
ASIA
Gibraltar
Tunis
Tangier
ALGERIA
Malta (Br.)
Cyprus (Br.)
Port Said
Cairo
MOROCCO
RIO DE ORO
LIBYA
EGYPT
Shellal
Wadi Halfa
FRENCH WEST AFRICA
Jimbuktu
Dakar
The GAMBIA
PORT. GUINEA
SIERRA LEONE
LIBERIA
GOLD COAST
TOGOLAND
NIGERIA
Kano
Ft. Lamy
Takoradi
Lagos
CAMEROONS
Duala
RIO MUNI
FRENCH EQUATORIAL AFRICA
ANGLO EGYPTIAN SUDAN
Khartoum
El Obeid
ERITREA
ADEN PROT.
Jibuti (Fr.)
ETHIOPIA
SOMALIA
Mogadish
Juba
UGANDA
Kampala
KENYA
Nairobi
Mombasa
Zanzibar
Dar es Salaam
TANGANYIKA TERRITORY
Tabora
Mwanza
BELGIAN CONGO
Leopoldville
Matadi
Port Francqui
Albertville
Bukama
Pointe Noire
South Atlantic Ocean
Ascension (Br.)
St. Helena (Br.)
Benguela
ANGOLA
NORTHERN RHODESIA
Ndola
Livingstone
Bulawayo
NYASALAND
MOZAMBIQUE
Beira
MADAGASCAR
SOUTH WEST AFRICA
Windhoek
Walvis Bay
BECHUANALAND PROT.
Mafeking
Lourenço Marques
Durban
UNION OF SOUTH AFRICA
Capetown
Port Elizabeth
Indian Ocean
British Territories
British Mandates & Condominium
Principal Roads
Railways
Miles
0
800

By the end of the 19th century – as this map from 1900 shows – Britain controlled territories running the length of Africa

produced goods – as did the rest of the empire, of course.

The Empire's expansion wasn't taken as a given; colonies were often far from acquiescent when it came to coming under the rule of the British crown. Uprisings were a recurring motif of the Victorian imperial age, whether it was the Indian Rebellion that ultimately did for the East India Company, or the First Taranaki War in New Zealand (1860-61), or Jamaica's Morant Bay Rebellion of 1865.

> "COLONIES WERE OFTEN FAR FROM ACQUIESCENT WHEN IT CAME TO COMING UNDER THE RULE OF THE BRITISH CROWN"

EDGING TOWARDS AN END

Certain colonies that had been staples of empire for many decades, and which were comparatively peaceful places, were rewarded with 'dominion' status, making them semi-independent. Canada was the first of these, in 1867, with Australia following suit in 1901. However, and certainly in the early case of Canada, this new status was decidedly limited. London retained the right to overrule decisions made across the legislative, executive and judicial branches of government.

After its peak during the Victorian era, the Empire began to recede during the 20th century, with the British economy significantly crippled by the cost of two world wars. Many of the colonies, protectorates and dominions embarked on a programme of national self-determination. In 1957, ten years after independence had been granted to India, Ghana, too, removed itself from colonial control, followed by the rest of Britain's African colonies. Across the Atlantic, throughout the 1960s, '70s and '80s, the various islands that made up the British West Indies also extricated themselves from direct rule by London.

From its height during Queen Victoria's long reign, when a quarter of the world's landmass was under the Crown, the British Empire had entered its twilight.

WORDS: NIGE TASSELL

GETTY IMAGES X6, ALAMY X1

VICTORIA

RISE OF AN EMPRESS

When control of the subcontinent was handed to the British Crown in 1858, it marked the start of a turbulent relationship. **Lottie Goldfinch** explains how Queen Victoria fell in love with a country she never stepped foot in

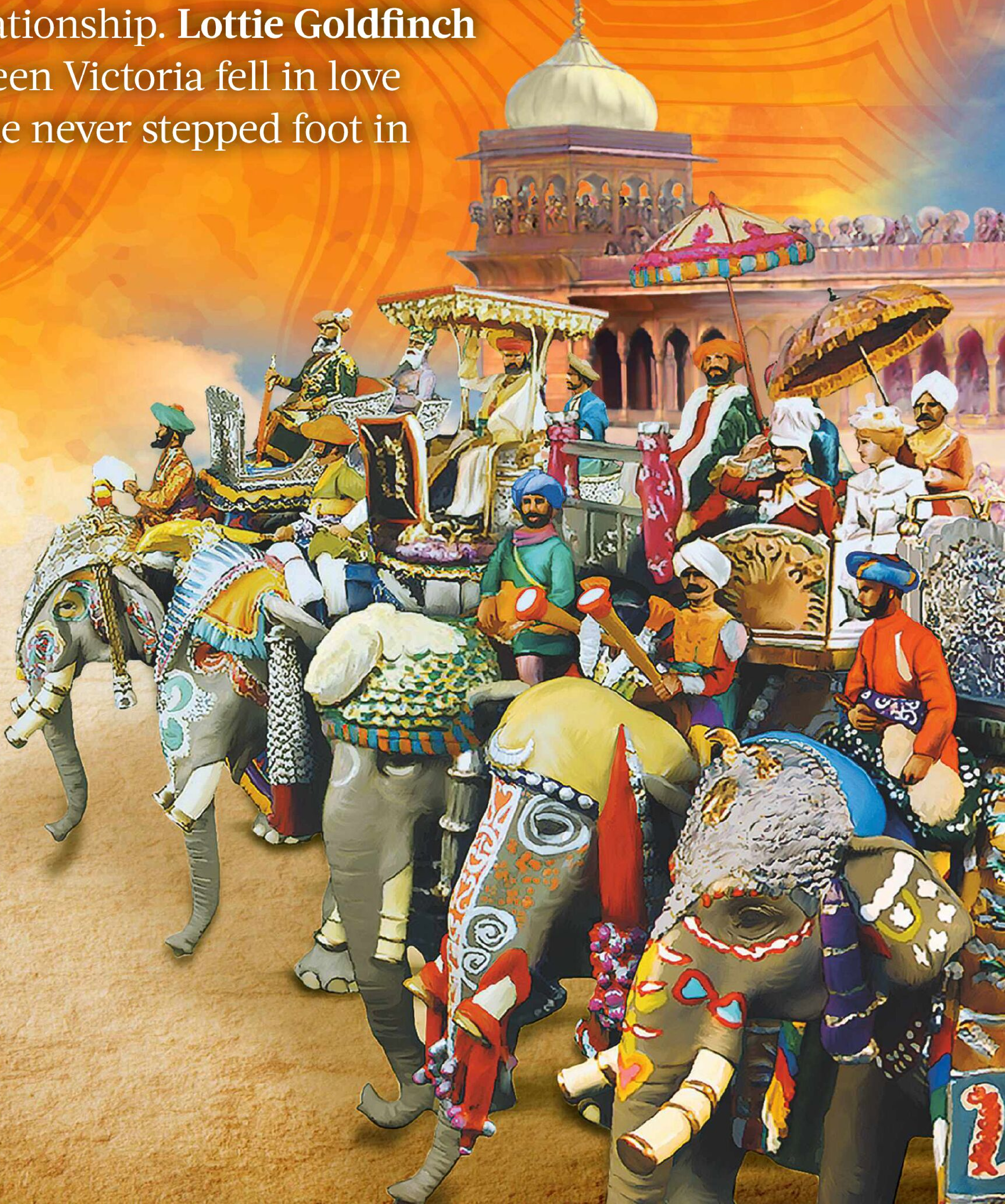


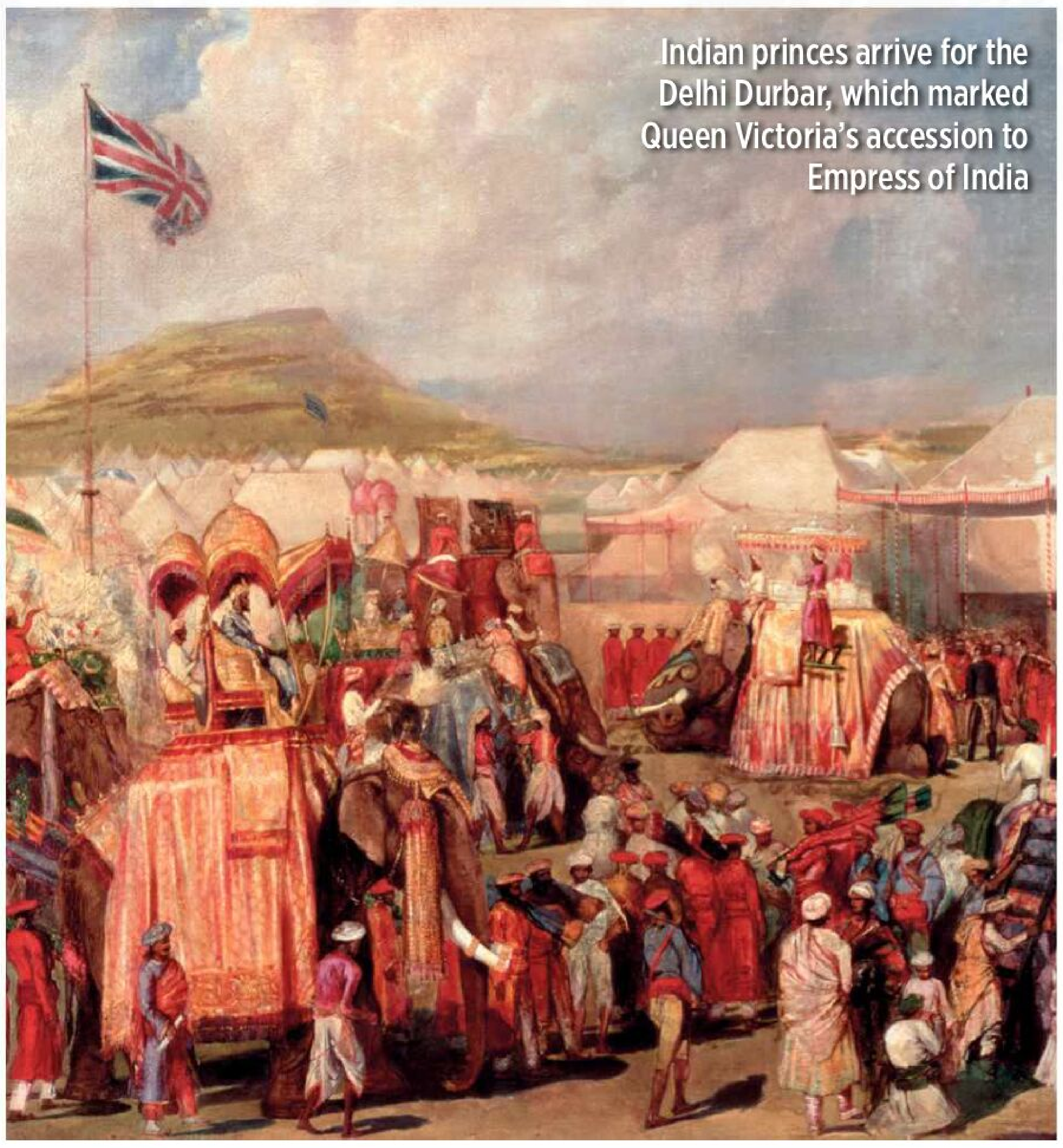
ILLUSTRATION: JEAN-MICHEL GIRARD/WWW.THE-ART-AGENCY.CO.UK

ENSE

On 1 January 1877, while Queen Victoria was quietly celebrating the new year with her family at Windsor Castle, a spectacular celebration was taking place more than 4,000 miles away in Delhi, India, to mark the Queen's new imperial role as Empress of India. Determined to flaunt the power and majesty of the British Raj, Lord Lytton, Viceroy of India, chose to revive Mughal traditions for the extravaganza, confident that it would be well received. A plan was coordinated to present leading Indian chiefs and princes with shield-shaped silk banners emblazoned with their coat of arms, albeit in a deliberate European style – "the further east you go, the greater becomes the importance of a bit of bunting", the Viceroy is recorded as saying. By the end of 1876, more than 400 Indian princes, chiefs, officials and their retinues had gathered together in Delhi in preparation for the grand ceremony.

The resulting pageant was a sumptuous demonstration of British authority. The Viceroy and his family processed through the streets of Delhi on elephants, entering the specially constructed Throne Pavilion to a fanfare of trumpets and royal salutes.

For the proclamation ceremony itself, Lord Lytton sat enthroned beneath a huge portrait of Queen-Empress Victoria. Facing him were 63 ruling Indian chiefs, "all in gorgeous costumes of satin, velvet or cloth of gold". A telegram sent by Lytton to the Queen later that day expressed his satisfaction and delight at the occasion: "There can be no question of the complete success of this great imperial ceremony," he announced happily.

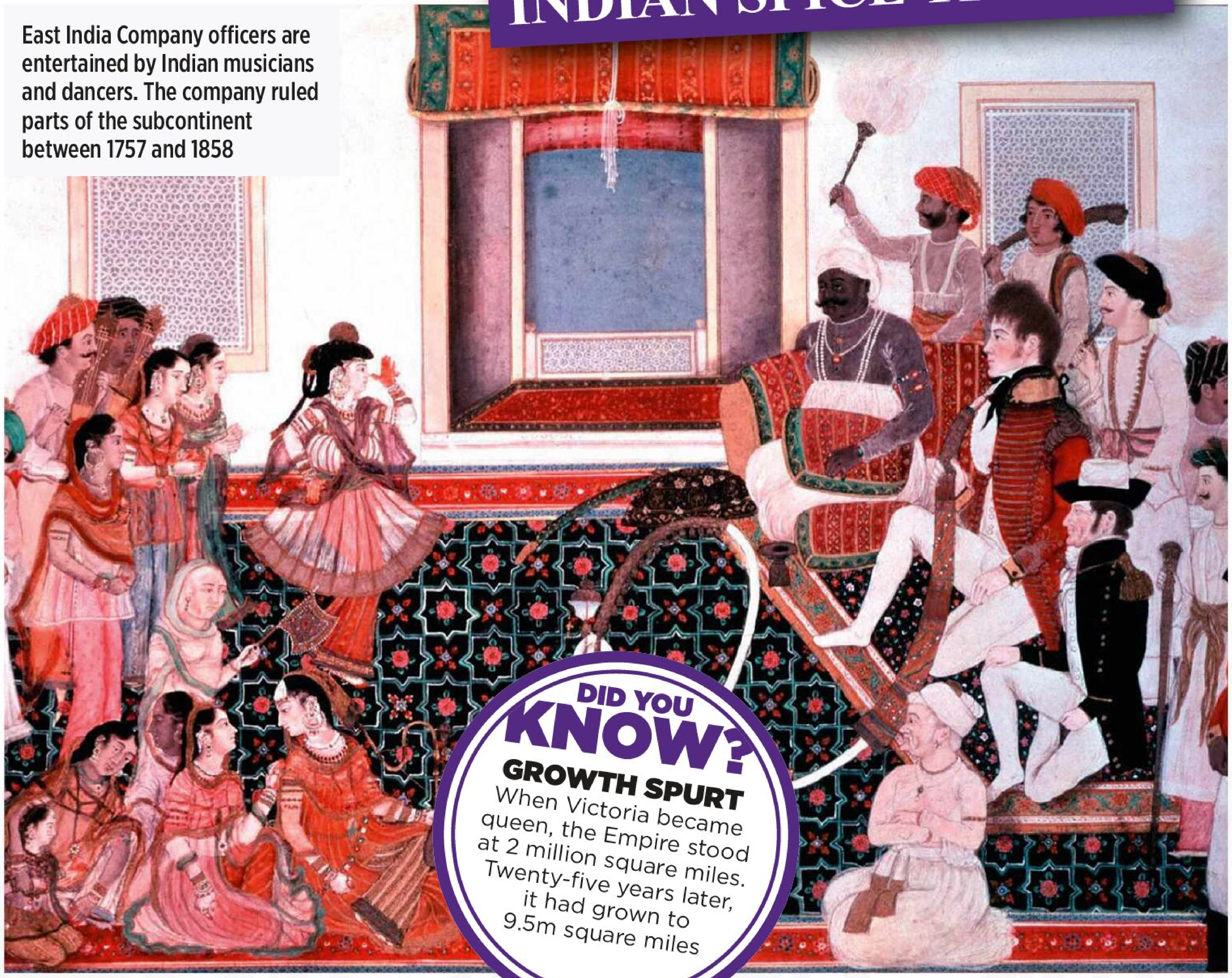

Indian princes arrive for the Delhi Durbar, which marked Queen Victoria's accession to Empress of India

THE ROAD TO INDIA

The elaborate proclamation ceremony may have, on the surface at least, neatly papered over the cracks in Anglo-Indian relations, but resentment and anger at British involvement in Indian affairs had been simmering for more than 300 years, well before Victoria came to the throne.

British presence in India had begun in 1600, with the formation of the East India Company (EIC) – a company whose purpose was to exploit trade with East and Southeast Asia and India. For years, Britain had desired a share in the rich and profitable East Indian spice trade monopolised by Spain and Portugal, and in 1588, the defeat of the Spanish Armada had helped break European domination of the market. Despite Dutch opposition, England won trading concessions from the Mughal Empire and began to trade in cotton and silk, fabric goods, indigo dye, saltpetre (used to preserve meat and also make explosives) and spices.

> "BRITAIN HAD DESIRED A SHARE IN THE PROFITABLE INDIAN SPICE TRADE"


East India Company officers are entertained by Indian musicians and dancers. The company ruled parts of the subcontinent between 1757 and 1858

DID YOU KNOW?

GROWTH SPURT

When Victoria became queen, the Empire stood at 2 million square miles. Twenty-five years later, it had grown to 9.5m square miles

BRIDGEMAN IMAGES X1, GETTY X1

The Company's first ships arrived at the Indian port of Surat in 1608, and in 1619 a factory was established in the same city with the permission of the Mughal emperor Jahangir. By the 18th century, the EIC had expanded massively, eclipsing its European rivals and establishing several trading posts and communities along the east and west coasts of the Indian subcontinent.

But in 1757, the company's fortunes took a different turn. East India Company civil-servant-turned-military-man, Robert Clive, defeated the Nawab (governor) of Bengal and his French allies at the Battle of Plassey. It was a clash that, in part, had erupted over EIC abuse of the trade privileges that had been granted to them.

The British victory enabled the company to take over the administration of large parts of India, with British communities established around Bombay, Calcutta and Madras. Seven years later, the young Mughal emperor Shah Alam too was defeated by EIC troops and exiled from Delhi. His Mughal revenue officials in Bengal, Bihar and Orissa were replaced by a set of English traders who had been appointed by Clive, who was now governor of Bengal.

From this moment, the EIC morphed from an international trading corporation into a privately owned colonial power, becoming the effective rulers of Bengal and expanding its territory at an alarming rate. ▶

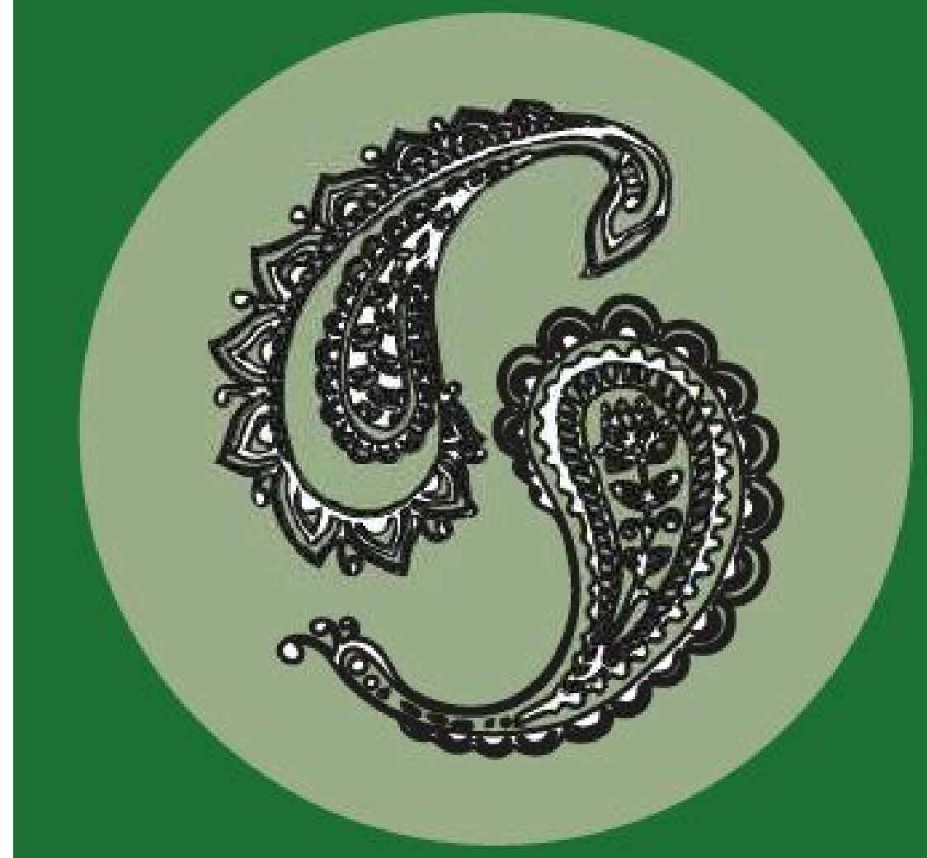
INDIAN INFLUENCE ON BRITAIN

LANGUAGE

Words of Hindi and Urdu origin soon infiltrated the English language. ‘Pyjamas’ comes from the Urdu word *payjamah*, meaning leg garment, while ‘shampoo’ is from the Hindi word *čāmpo*, meaning to press and knead.

SPORT

The modern game of polo originated in northeast India in circa AD 33, and was adopted by English plantation owners in Assam from c1854. The sport was later popularised by the British upper classes.



FASHION

Materials such as cotton and silk, accessed through trade with India, were increasingly used in British clothing. Indian-inspired patterns such as paisley also became popular in fashion.

FOOD

Once Indian spices were widely available in Britain, curries and chillies featured regularly in the British diet. London’s first Indian restaurant opened in 1810, but it was Victoria’s love of curry that made its popularity spread.

DRINK

Indian tea culture gave rise to the tradition of afternoon tea, together with the establishment of tea shops and tea rooms. Victoria’s expansion of trade with India made products such as tea cheaper and more plentiful.

BRITISH INFLUENCE ON INDIA

EDUCATION

The British wished to create “a properly articulated system of education from the primary school to the university”, and vernacular education and mass education were deemed incredibly important. In 1857, universities were established in Calcutta, Bombay and Madras.

POSTAL SERVICE

The Indian Post Office was established in 1837, with the first adhesive stamp following in 1852. Under the British Raj, the postal system expanded rapidly, with 889 post offices handling some 43m letters and more than 4.5m newspapers annually by 1861.

SPORT

The first reference of a cricket match being played in India is in 1721, by sailors of the East India Company, and from there the sport grew. The start of first-class cricket in the country is said to have been a match between Madras and Calcutta in 1864.

COMMON LAW SYSTEM

India’s tradition of Hindu and Islamic law was broken under the British Raj in favour of British common law – a system of law based on recorded judicial precedents.

LANGUAGE

In 1837, English became the official language of Indian law courts, and in 1844, preference in government posts was given to those who had received an English education. It also became the accepted language of the social elite and national press.

LIFE IN THE BRITISH RAJ

The majority of the first British inhabitants in India were men who enjoyed the luxuries the country could offer, at a small cost to themselves – Indian servants, mistresses and fine dining were all enjoyed with gusto. The opening of the Suez Canal in 1869, however, made travel between India and Britain a lot quicker, and British women and families began to make the move.

Tensions between Britons and India's native population remained in the wake of the Indian Rebellion of 1857, exacerbated by the air of racial superiority with which Britain viewed the subcontinent. It was, in the thoughts of many Victorians, a country that needed to be held in trust until its people were deemed civilized and competent for self-rule.

The British community in India may have kept itself separate from Indian communities but it was not immune to the perils of the country's climate. The average lifespan for an Englishman in India was 31; for an Englishwoman just 28. Cholera, typhoid, malaria and dysentery were just some of the dangers facing British men and women.

Despite this, many British reformers were determined to bring western technologies and ways of life to India. In 1853, the first Indian railway opened, stretching from Bombay to Thana, while the machines introduced during the Industrial Revolution made major changes to agriculture. Roads, canals and bridges were all introduced, together with telegraph links.

Big game hunting was a popular pastime for these Brits abroad. It is estimated that in the 50 years between 1875 and 1925, 80,000 tigers were slaughtered

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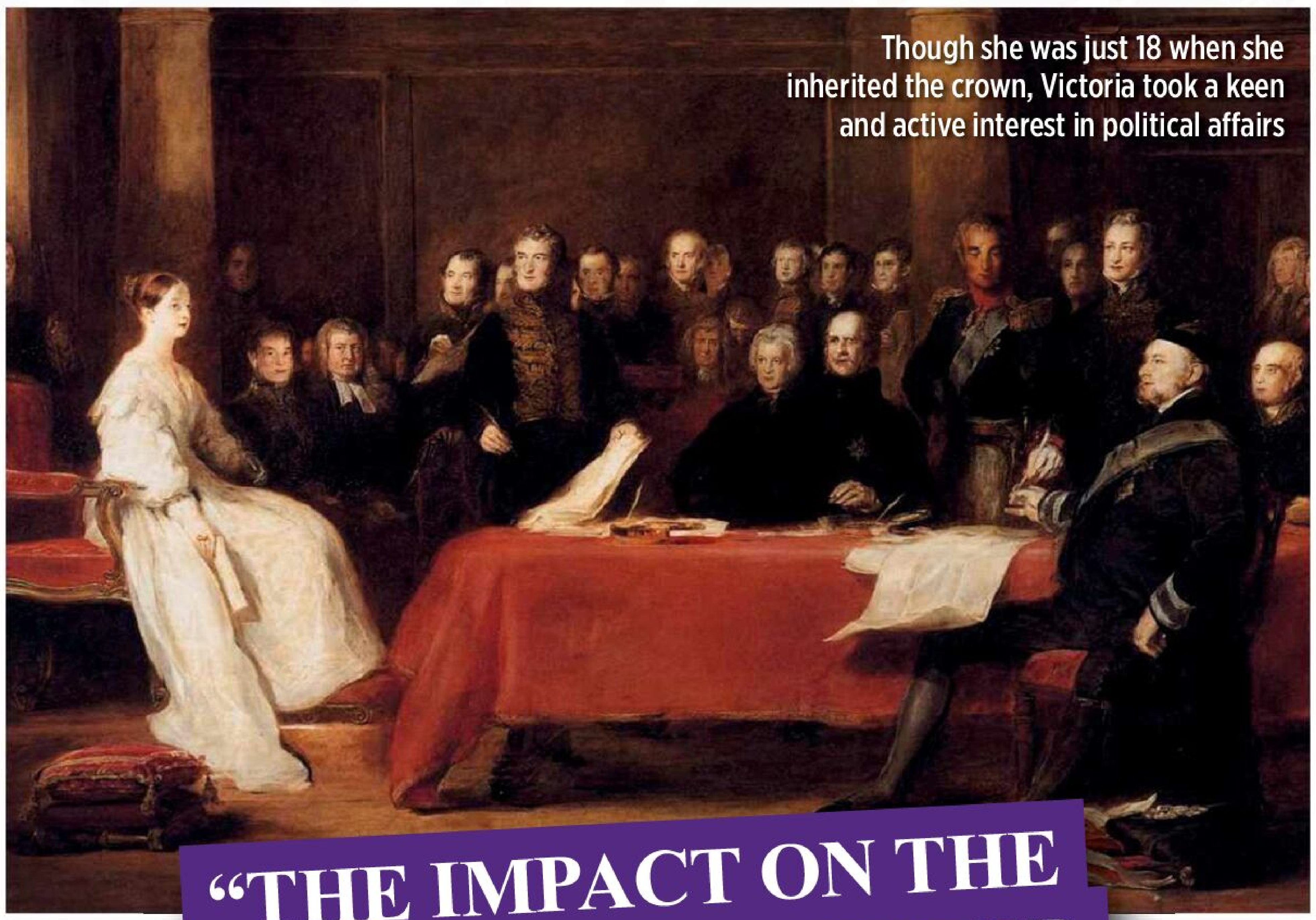


Though she was just 18 when she inherited the crown, Victoria took a keen and active interest in political affairs

> "THE IMPACT ON THE INDIAN STATES UNDER THE COMPANY'S RULE WAS DISASTROUS"

◀ The impact on the Indian states under the company's rule was disastrous. Far from wishing to preserve and nurture its newly gained territories, men of the EIC plundered and pillaged Bengal, leaving it in a state of destitution. Crippling taxes destroyed the economic resources of the rural population, compounded by a devastating famine between 1769 and 1773, which is thought to have caused the deaths of up to 10 million people.

Huge military expenditure saw the EIC run into serious financial difficulties, and in 1773, the British government was forced to step in and help the ailing company, with William Pitt's India Act of 1784 seeking to bring it under closer parliamentary supervision, namely through the rule of a governor-general.

But the EIC continued to expand and by 1803, its reach extended up the Ganges valley to Delhi and across most of the peninsula of southern India. Fifteen years later, the EIC had become the main political power in India, with direct control over around two thirds of the subcontinent.

EARLY EMPIRE

When Victoria ascended the throne in 1837, few would have predicted how far British influence would spread during her reign. Imperial expansion had been haphazard, and predominately the result of victory in military conflicts or settlements founded by Britons seeking new lives abroad.

At the start of the 19th century, most of Britain's jumbled collection of territories – such as Canada, South Africa and Guiana – had been unintentionally acquired by previous monarchs, rather than as a result of a deliberate programme of expansion. These territories were only partly administered by government, with chartered companies such as the East India Company holding significant power.

At her accession, the inexperienced Queen was initially content to follow the instruction of her advisors when it came to matters of foreign policy. But, with eleven wars fought during the first quarter of her reign alone, Victoria soon began to take a keen interest in British affairs abroad. Although she no longer had the power to make or break governments as she saw fit, Victoria took her queenly duty to advise, consult and warn seriously, and ultimately helped shape government policy.

One of her chief demands was that military consequences be considered first and foremost, if Britain was to pursue the type of aggressive foreign policy that it had become famous for in the 19th century. Supportive though she was of Britain's imperial 'duty' to spread civilisation to the darkest corners of the globe, Queen Victoria was deeply concerned for the fate of the ordinary solider who was putting his life on the line for his country.

But the people Victoria sought to rule did not always take British colonisation lying down. One of the biggest events of her rule took place in India, where, in 1857, widespread unrest at increasing westernisation, challenges to traditional Hindu culture and British dominance in all areas of Indian life exploded into a mass uprising against the EIC's rule and the authority of the British Crown.

The rebellion began in March 1857, when an Indian *sepoy* (soldier) named Mangal Pandey attacked officers at the garrison in Barrackpore, North Calcutta, and was subsequently executed. A few weeks later, trouble erupted again when a group of solders were imprisoned at Meerut for refusing to use gun cartridges rumoured to have been greased in pork fat, as it offended their religious beliefs. The two incidents and the harsh punishments inflicted on the perpetrators led to a military uprising in May, which saw Indian soldiers shoot their British officers and march on Delhi. Word spread quickly, and similar mutinies took place across all of northern India.

The British acted quickly to suppress the rebellion, and the desperate struggles for Indian independence were quelled in a flurry of bloodshed. Thousands of sepoys were bayoneted or fired at with cannons, and even women and children failed to escape the reprisals. Around 100,000 Indian soldiers are believed to have died in the mutiny, although historian Amaresh Misra claims that British reprisals continued for a decade after the event, with millions more killed.

BRITISH IMPERIAL DUTY

When news of the uprising reached Britain, there was widespread public horror at the level of bloodshed on both sides of the conflict. Newspaper headlines shouted of the massacre of captured Europeans – including women and children – by the rebels, as well as the indiscriminate killing of Indian civilians at the hands of the British armies.

Queen Victoria herself followed the uprising closely, writing in her diary for 3 August: "Dreadful details in the papers of the horrors committed in India on poor ladies and children, who were murdered with revolting barbarity! An awful state, and the crisis, in every sense, an alarming one..."

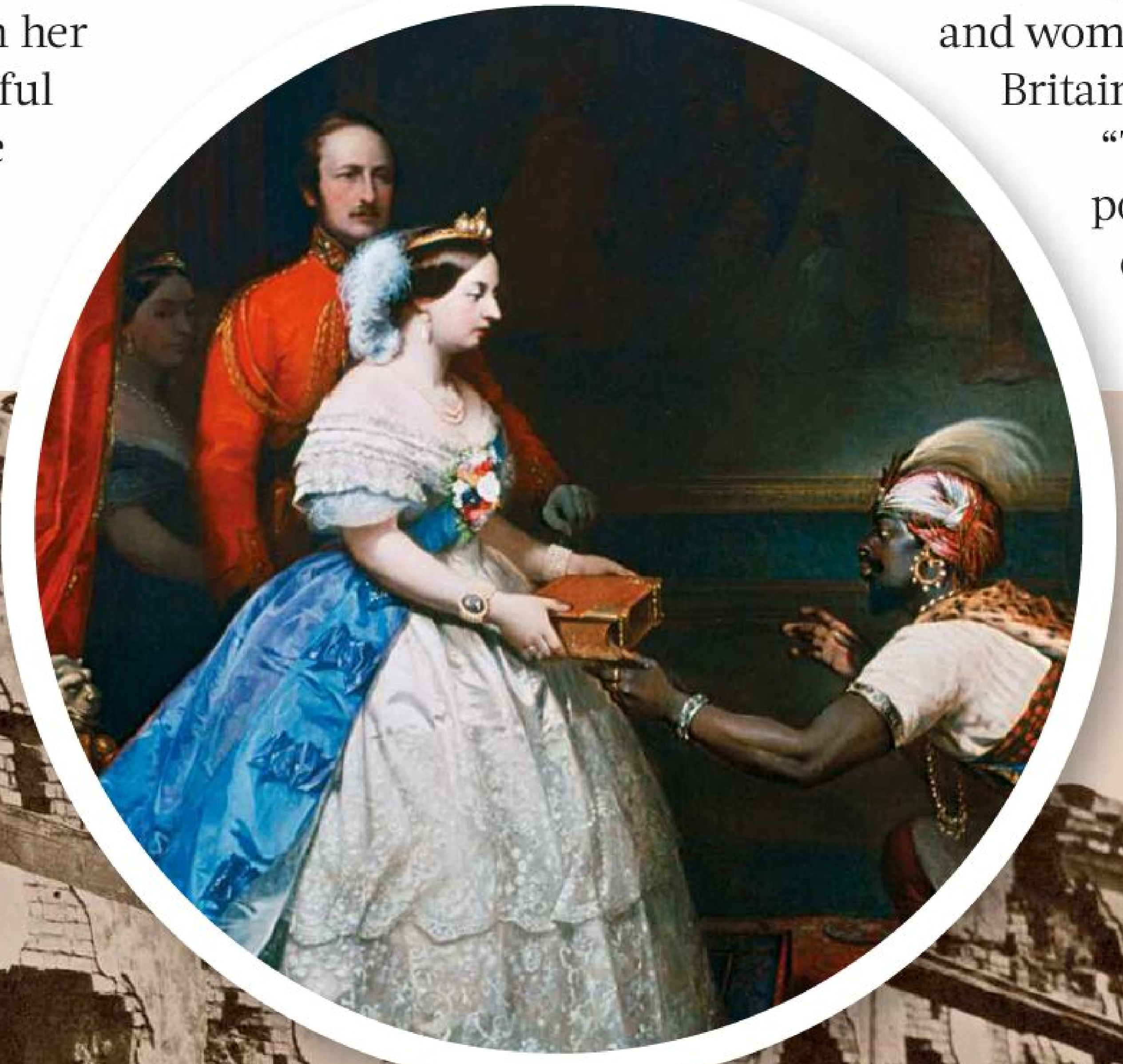
But despite widespread condemnation of the violence, voices of sympathy to those involved were also raised, and many Britons – including Victoria – still retained a sense of imperial duty that continued to have a profound influence on its colonial expansion. In places like India and Africa, this had historically manifested in an influx of Christian evangelicals, many of whom sought to convert native peoples to Christianity.

The nation was divided between those who believed it was Britain's duty to Christianise the people of its empire, and those who believed that those living in its colonies would never be able to reach the same level of development as those living in Britain.

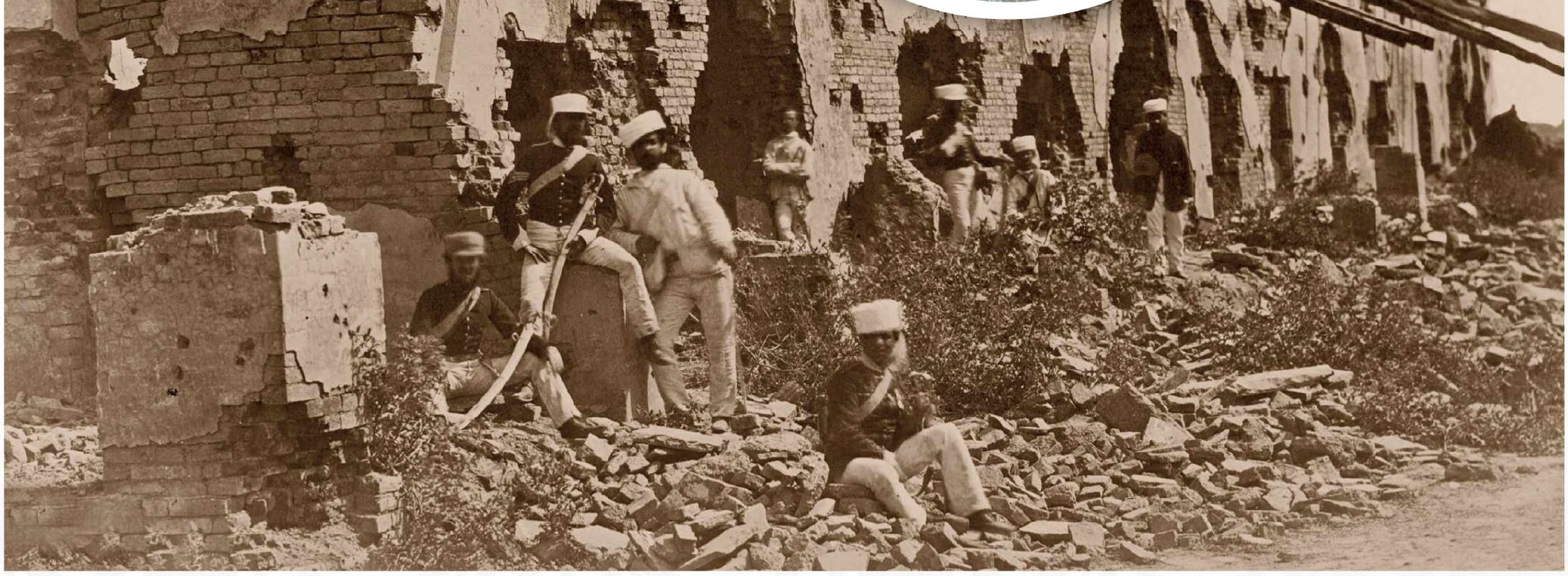
People such as Cecil Rhodes, a dedicated imperialist, believed the empire should be run and ultimately populated by members of the 'Anglo-Saxon' race, who had a duty to found colonies and populate them with men and women who would advance Britain's power.

"There is a destiny now possible for us, the highest ever set before a nation...

Continues on p32



Victoria believed that she had a duty to bring the word of the Bible to the native peoples of her empire



The walls of British imperialism were brought tumbling down during the Indian Mutiny of 1857

THE BRITISH EMPIRE

THE RISE...
16th century to 1900

The expansion of Britain's empire is often divided into two parts: the first empire and the second empire. The establishment of Britain's overseas territories began in the 16th century, and by 1783, its empire included colonies in the Americas and the West Indies. The first British settlement in Africa was made at James Island in the Gambia River in 1661. This first stage of the empire is said to have ended after the loss of American colonies in 1783.

But it was in the 19th century that a second worldwide British Empire was built, and it is during this period that Britain experienced unprecedented expansion of its overseas landholdings. By the end of the century, the British Empire comprised nearly one-quarter of the world's land surface and more than 25 per cent of its total population. The last 20 years of the 19th century alone saw the Empire absorb 30 per cent of Africa's entire population.

DID YOU KNOW?

HELLO, BABY

In 1587, Virginia Dare became the first child born in North America to English parents, at the Roanoke Colony

...AND THE FALL
1945 to present day

The Empire began its steady decline in the wake of the two world wars, which had left Britain significantly weakened economically. Indian independence in 1947 had sown the seeds for change and in the 1950s, wishing to avoid the colonial wars that France was fighting with Algeria, the British government granted independence to Sudan, the Gold Coast and Malaysia.

Many of Britain's colonies had already become dominions of Britain by the time the Empire began to decline. Canada became Britain's first dominion, in 1867, followed by Australia in 1901 and New Zealand in 1907. These former colonies were, in principle, still attached to the British Crown, but were able to exercise certain agreed rights.

Most of Britain's Caribbean territories achieved their independence over the next 20 years or so, with Barbados leaving in 1966 and the remainder of the eastern Caribbean islands in the 1970s and 1980s. For many, the final end to the Empire came in 1997, when Hong Kong became a special administrative region of the People's Republic of China.

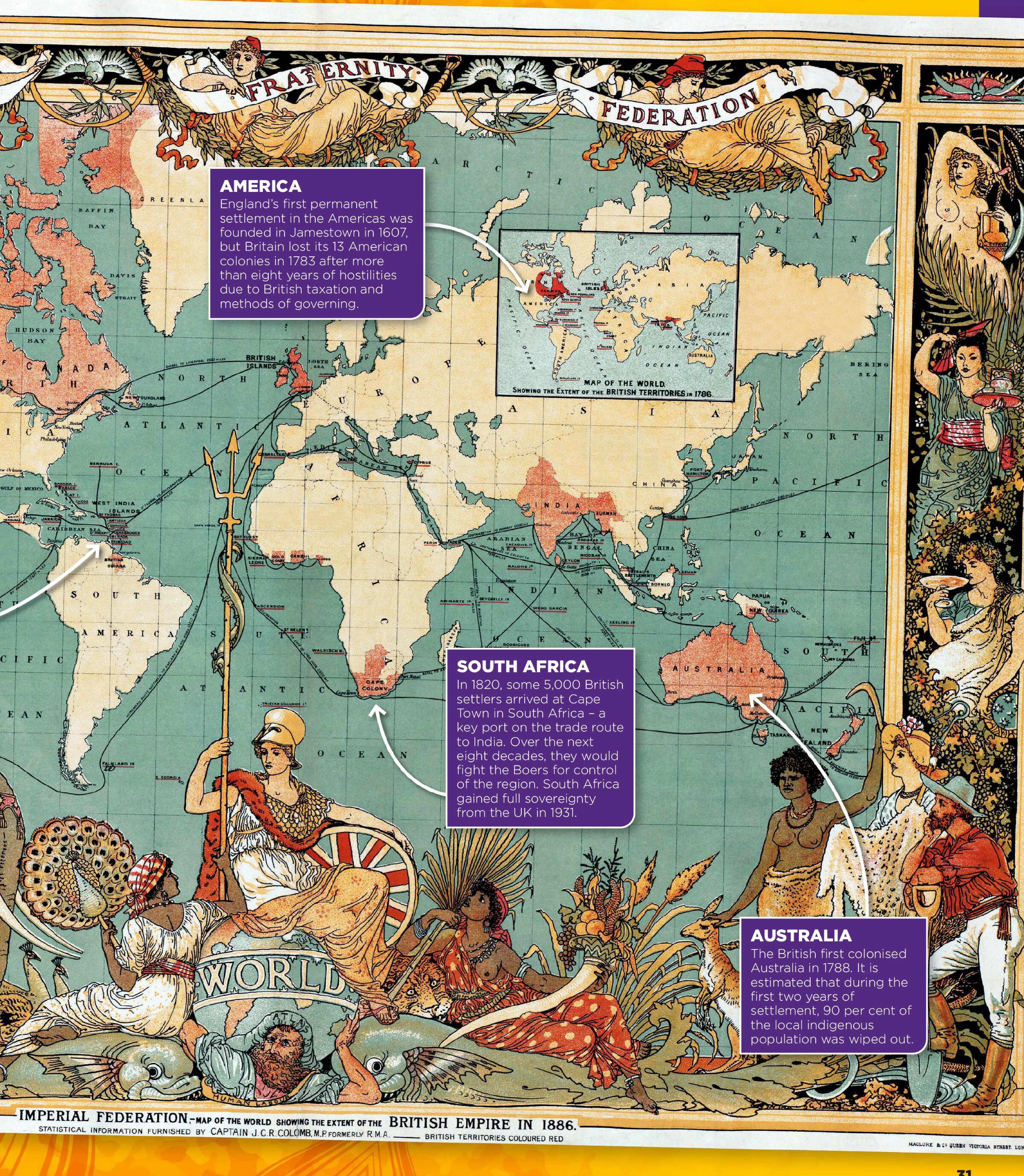
In 1949, the voluntary Commonwealth of Nations was formed, initially comprising eight independent member states, of which most were former territories of the Empire. Today, the Commonwealth is home to 2.4 billion people from 52 countries.

FREEDOM
DOMINION O
BERING SEA
BRITISH COLUMBIA
VANCOUVER
VICTORIA
NORTH PACIFIC OCEAN
San Francisco
AMER
SOU
PA
O
Tropic of Capricorn

CANADA
After Great Britain's victory over the French in the Seven Years' War of 1756-63, the Treaty of Paris was agreed, which ceded New France, of which Canada was a part, to the British Empire. It remains part of the Commonwealth.

THE WEST INDIES
With Christopher Colombus's discovery of the New World followed a race between the European powers to colonise the islands of the Caribbean. In 1912, the British territories were divided into eight colonies: the Bahamas, Barbados, British Guiana, British Honduras, Jamaica, Trinidad and Tobago, the Windward Islands and the Leeward Islands. Most gained independence in the 1960s-80s.

ALAMY X1


FRATERNITY
FEDERATION
MAP OF THE WORLD SHOWING THE EXTENT OF THE BRITISH TERRITORIES IN 1786.
WORLD
HUMAN LABOUR
IMPERIAL FEDERATION, MAP OF THE WORLD SHOWING THE EXTENT OF THE BRITISH EMPIRE IN 1886.
STATISTICAL INFORMATION FURNISHED BY CAPTAIN J.C.R. COLOMB, M.P. FORMERLY R.M.A. — BRITISH TERRITORIES COLOURED RED
MACLURE & Co QUEEN VICTORIA STREET, LON

AMERICA

England's first permanent settlement in the Americas was founded in Jamestown in 1607, but Britain lost its 13 American colonies in 1783 after more than eight years of hostilities due to British taxation and methods of governing.

SOUTH AFRICA

In 1820, some 5,000 British settlers arrived at Cape Town in South Africa – a key port on the trade route to India. Over the next eight decades, they would fight the Boers for control of the region. South Africa gained full sovereignty from the UK in 1931.

AUSTRALIA

The British first colonised Australia in 1788. It is estimated that during the first two years of settlement, 90 per cent of the local indigenous population was wiped out.

DID YOU KNOW?

LANGUAGE LOVE

As well as being fluent in German, Victoria also spoke French, Italian and Latin

Q&A

Dr Xavier Guégan

Dr Xavier Guégan is Senior Lecturer in Colonial and Postcolonial History at the University of Winchester. He publishes and lectures on British Indian and French Algerian history.

How did East India Company rule and Crown rule of India differ?

The 18th-century mercantile system, which revealed corruption on the part of the East India Company, was replaced by more direct colonisation and an economic, social and cultural imperialism that left little space for Indians' voice in their own country.

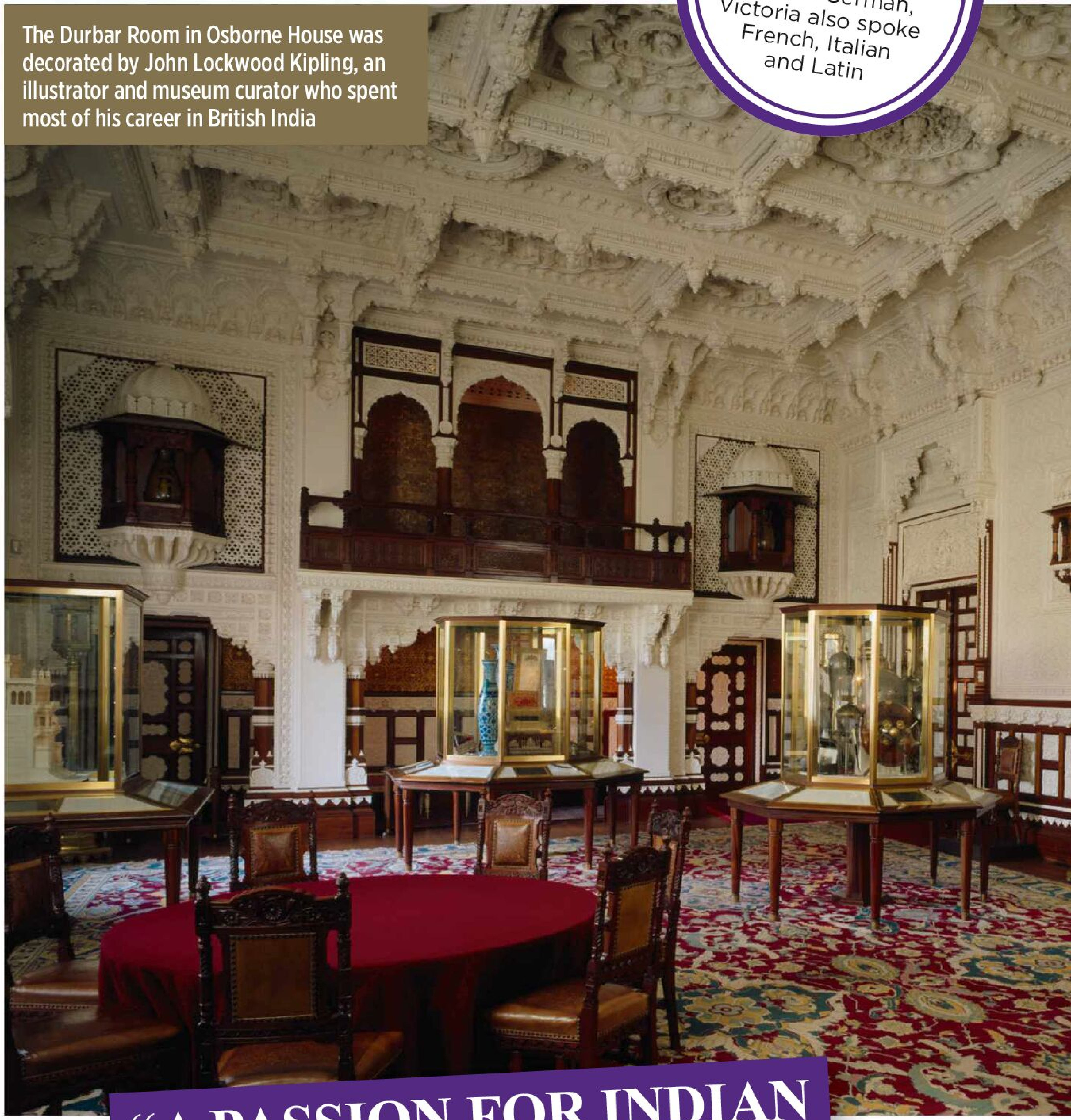
Did British rule after 1858 bring more negatives than positives for India's population?

From the 1820s, the British government via the East India Company colonised further territory, justified on moral and economic grounds: the events of 1857-58 were a reaction to these changes. The official transfer of power to the Crown in 1858 further reduced decision-making by Indians, limited freedom of speech, and introduced the infamous 'divide and rule' policy that strongly disturbed the harmony within communities, especially religious differences.

High taxation and the establishment of the cash crop system orientated to industries in Britain meant that no real internal industrialisation was possible for the subcontinent. On a more positive aspect, the second empire meant the increase of movement of people across the world, and gender issues (here meaning women, and not other minorities) began to be debated. We should not idealise India before the time of the British rule, but nor should we romanticise British colonialism as beneficial. What is certain, however, is that India has benefitted the Britain of yesterday and today.

How did Indian people view British presence in India?

The Sahibs and Memsahibs were a very small minority in a large country. Thus they had to show, via the 'Illusion of Permanence', both their physical presence and the visibility of their rule through the establishment of cultural and economic signs such as monuments, new buildings and technology (photography, the railway, etc). If the Indian population was indeed under the control of British colonisation, many areas such as rural villages were not directly confronted by Crown rule. Yet lives were affected by Western globalisation, and Indian thinkers, artists and political activists were well aware of this influence.



The Durbar Room in Osborne House was decorated by John Lockwood Kipling, an illustrator and museum curator who spent most of his career in British India

> **"A PASSION FOR INDIAN CULTURE SWEPT THROUGH BRITAIN"**

◀ This is what England must do or perish: she must found colonies as fast and as far as she is able, formed of her most energetic and worthiest men; seizing every bit of fruitful waste ground she can set her foot on, and there teaching these her colonists that the chief virtue is to be fidelity to their country and their first aim… to advance the power of England."

ROYAL RESPONSE

Like many of her subjects, Victoria, while believing in many of the ideals of empire, was not wholly unsympathetic to the men and women of the nations she wished to rule, and had reservations about some of the methods of colonisation employed.

In the wake of the Indian Rebellion, the British Parliament had passed the Government of India Act, which transferred the administrative authority and rights of the EIC to the British Crown. Wishing to reassure the Indian people of their rights as British subjects and to help restore peace in the country, Victoria issued a proclamation on 1 November 1858 that became known as 'the Magna Carta of the People of India'. In it, Victoria stated that Britain desired "no extensions of Our present territorial possessions" and promised to "respect the rights, dignity, and honour of Native Princes as Our own".

Religious toleration was also assured with the line "we disclaim alike the Right and Desire to impose our Convictions on any of Our Subjects" with "none molested or disquieted by reason of their Religious Faith or Observances…" And with that, India was annexed to the British Empire.

Of course, ruling a country as vast as India would not have been possible without the cooperation of its princes and local leaders. During the period that followed the 1857 rebellion – known as the British Raj – some 20,000 British troops and officials were able to govern 300 million Indian people with relatively

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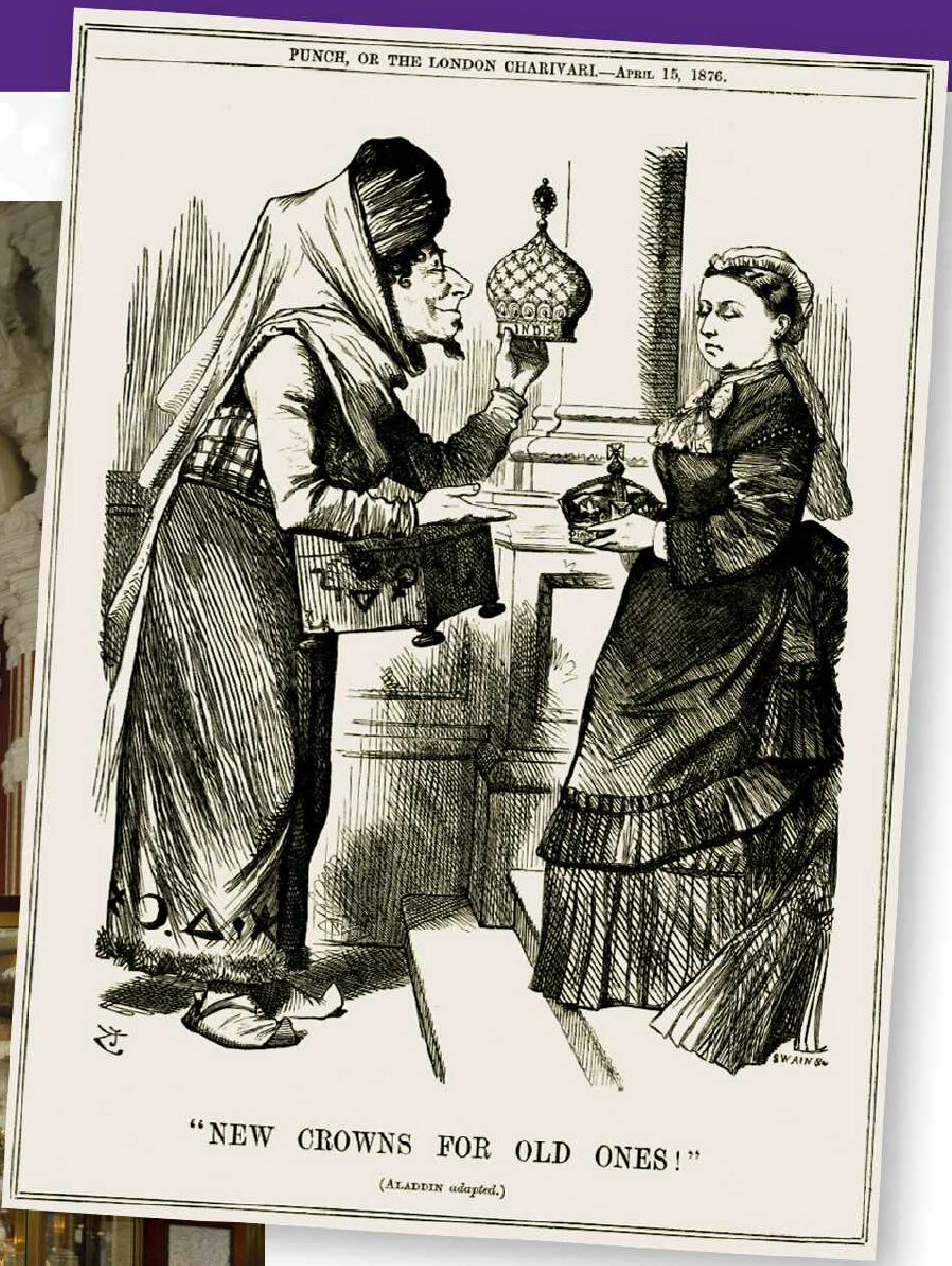

PUNCH, OR THE LONDON CHARIVARI.—April 15, 1876.
"NEW CROWNS FOR OLD ONES!"
(Aladdin adapted.)
SWAIN SC.

Prime Minister Benjamin Disraeli, re-imagined as an eastern merchant in this *Punch* cartoon, offers the Indian crown to Victoria

little trouble. Some historians have attributed this to British divide and rule techniques, which played on the many divisions in Indian society, while others have claimed that India was actually accepting of British rule and the benefits it brought.

A NEW ERA

Although she didn't officially assume the title of Empress of India until 1877, Victoria's keenness to elevate her royal title was evident as early as 1873 when she complained to her secretary Henry Ponsonby: "I am an Empress and in common conversation am sometimes called Empress of India. Why have I never officially assumed this title?"

Her eagerness to assume the title had begun in 1871, following William I of Prussia's elevation to Emperor. Victoria's daughter, Vicky, who was married to William's son Frederick would therefore become Empress when her husband took the throne, effectively outranking her mother. Victoria was not amused. Prussia, Russia and Austria all had emperors and Victoria felt unable to compete unless she, too, assumed the title.

Prime Minister Benjamin Disraeli was the force behind overcoming parliamentary opposition and in 1877, Victoria became Empress of India, sealing the relationship between Britain and India. It also marked the beginning of the Queen's love affair with India and became a symbol of the responsibility she felt towards her Indian subjects.

Although she never visited the subcontinent – her son Edward VII would be the first British monarch to set foot on Indian soil – Victoria had a particular fascination with the country, and a passion for Indian culture swept through Britain in the late 19th century. Victoria's love of curry is well documented, while at Osborne House, the royal family's Isle of Wight seaside retreat, the magnificent Durbar room was added in 1890-92, designed by John Lockwood Kipling and Sikh architect Bhai Ram Singh. Built for state functions, the room boasts intricate Indian-style plaster work and exhibited the Queen's magnificent collections of gifts from Indian princes.

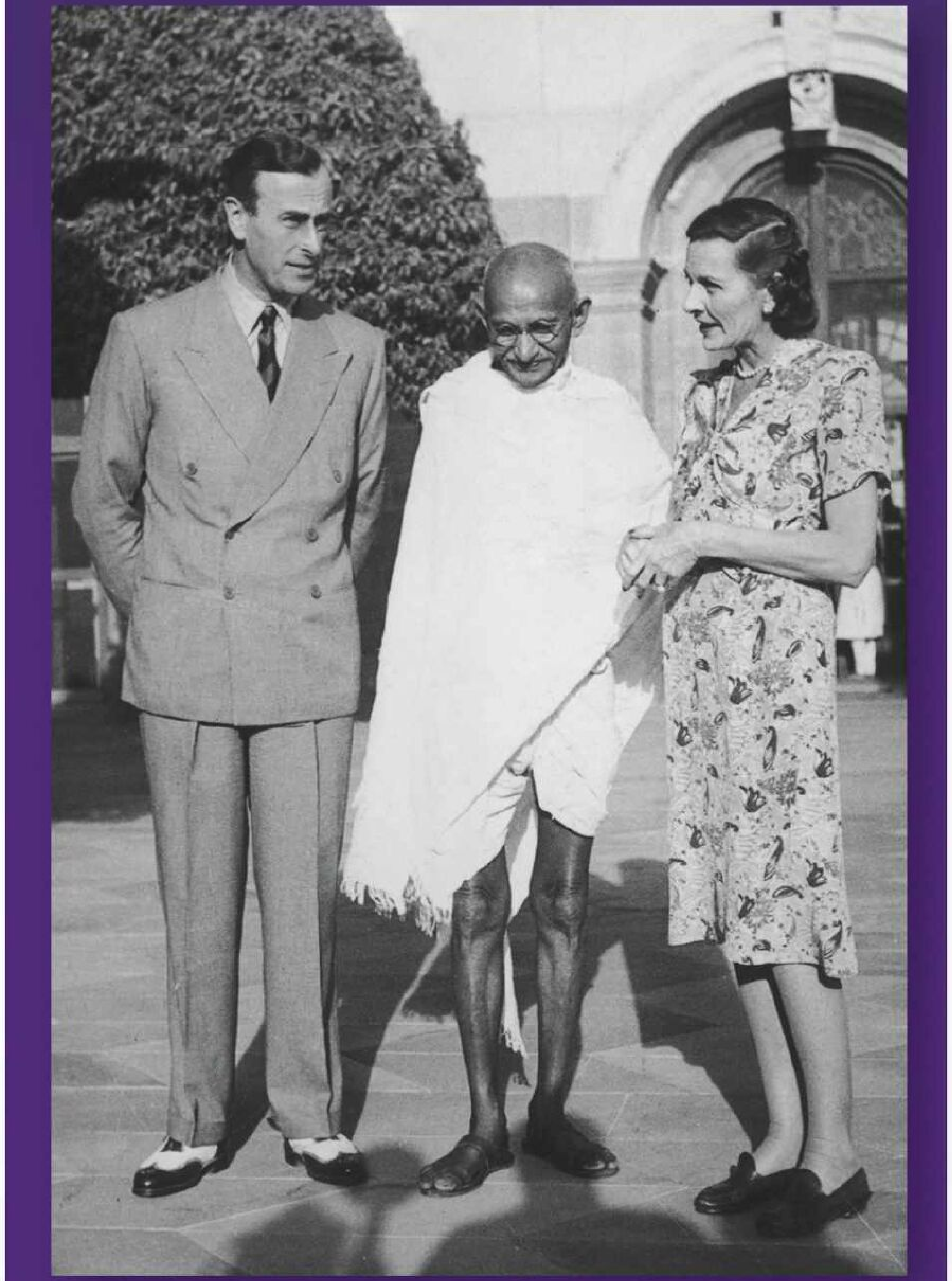
Britain's wider relationship with India - the jewel in the crown of the Empire – would continue for nearly half a century more, however, with both Edward VII and George V retaining the title Victoria had fought so hard for. British rule would end eventually – with as much pomp and circumstance as it had begun – but to this day, ties with India remain as hardy as the toughest diamond. ⊙

WHAT HAPPENED NEXT?

On 15 August 1947, after more than 300 years of British control, India finally achieved its independence. But its route to freedom had come at a high price. Official calls had begun as early as 1885 with the founding of the Indian National Congress, the first modern nationalist movement to emerge in the British Empire in Asia and Africa. The movement initially sought a greater share in government, but with continued British opposition, its demands became more radical. Gandhi, who became the main voice of the Indian National Congress, transformed it into a mass movement, advocating civil disobedience. He believed that no lasting reform was possible with an alien government, and instigated strikes, marches and boycotts.

World War II did much to aid India's call for independence. During the conflict, Britain had called upon its colonies for manpower and, in order to secure Indian support, promised to hand over political power in exchange for cooperation. India's contribution to the allied war effort was immense, with some 2.3 million soldiers manning the Indian army.

When independence eventually arrived, the country was divided into two independent dominions – Hindu-majority India and Muslim-majority Pakistan. The British Raj had ended, but partition plunged the subcontinent into a new era of blood and brutality.



Viscount Mountbatten, the Viceroy of India, with his wife and Gandhi in 1947

FOR QUEEN & COUNTRY

Victoria's reign was marked with conquests, invasions and battles

Throughout the 19th century, the British Empire continued to grow, though at a cost – there is not one decade of Victoria's reign that did not see some form of conflict in the Empire. During her time on the throne, British and Imperial soldiers faced battle across India, Africa, South-East Asia and Eastern Europe. Here, we examine four of the most famous conflicts of the era, which continue to resonate – whether for their privations or political implications.

DID YOU KNOW?

POWER OF THE PRESS

The Crimean War was the first in the world to be covered in newspapers – those back In Britain saw images of battle for the first time. This helped spread news of the work of nurses like Florence Nightingale and Mary Seacole.

GREENLAND
BAFFIN BAY
HUDSON BAY
ALASKA
NORTH AMERICA
UNITED STATES
PACIFIC OCEAN
ATLANTIC OCEAN
SOUTH AMERICA

THE CRIMEAN WAR (1853–56)

A conflict that changed the control of power within Europe – weakening Russia

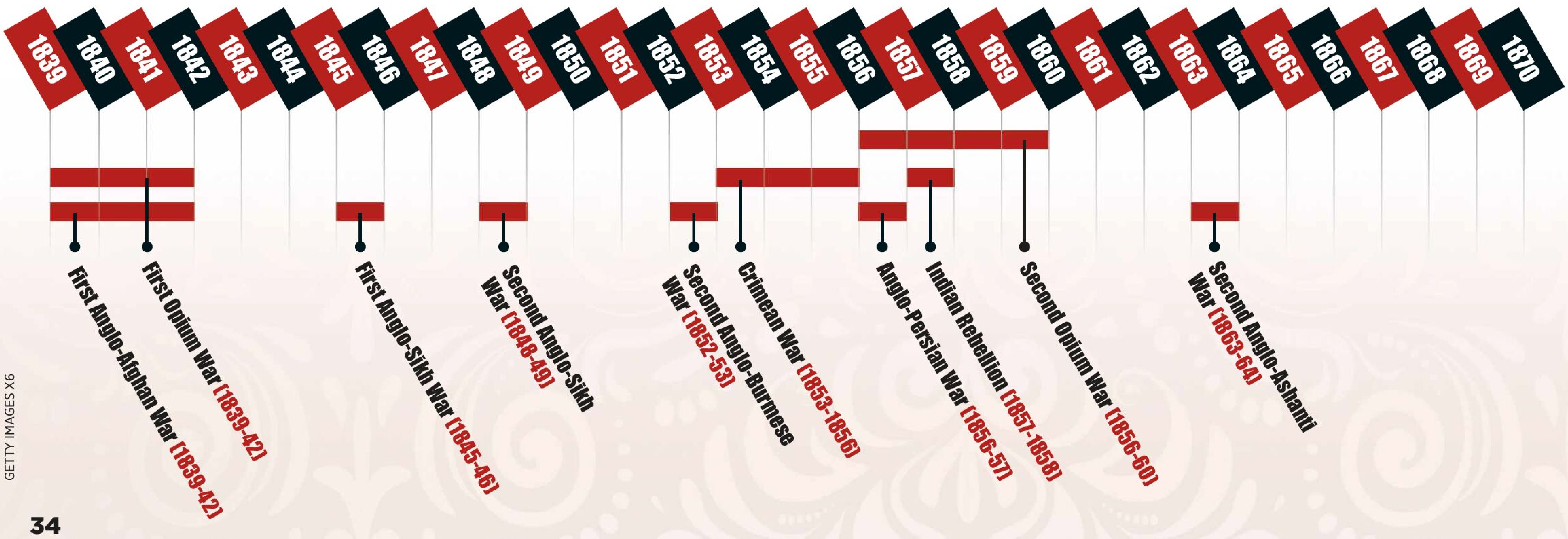
In 1853, Russia invaded the Danubian Principalities (modern Romania), causing the Ottoman Empire (a state and caliphate that controlled much of Southeastern Europe, Western Asia, and Northern Africa) under Sultan Abdulmejid I, to declare war. Britain and France, wary of Russian expansion, joined the Ottomans, taking part in an 11-month siege of Sevastopol on the Crimean Peninsula. Thousands of soldiers died from diseases such as typhoid and dysentery and the harsh winter, as well as the brutal battles of Alma, Inkerman and Balaclava. Peace was finally achieved when Austria threatened to join against Russia – the Ottoman Empire maintained hold of its territories, and Russia was forbidden from keeping a navy on the Black Sea.

The detritus of war left behind after the siege tells its own story of how hard the fighting at Sevastopol was

The 'Valley of Death' – so-named by Lord Tennyson after the disastrous Charge of the Light Brigade

MORE WARS

Some of the Victorian era's other conflicts



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THE SPARK THAT LIT THE FLAME

The Indian Rebellion began when a rumour spread that the cartridges of the Bengal Army's new rifle – a Pattern 1853 Enfield – had been coated in pig and cow fat. Since cartridges had to be opened by mouth, the fat coating was offensive to both Hindus and Muslims. It was the jailbreaking of 85 men of the 3rd Bengal Light Cavalry – who had refused to use these cartridges – on 10 May 1857 that sparked a wider rebellion amongst the sepoys.

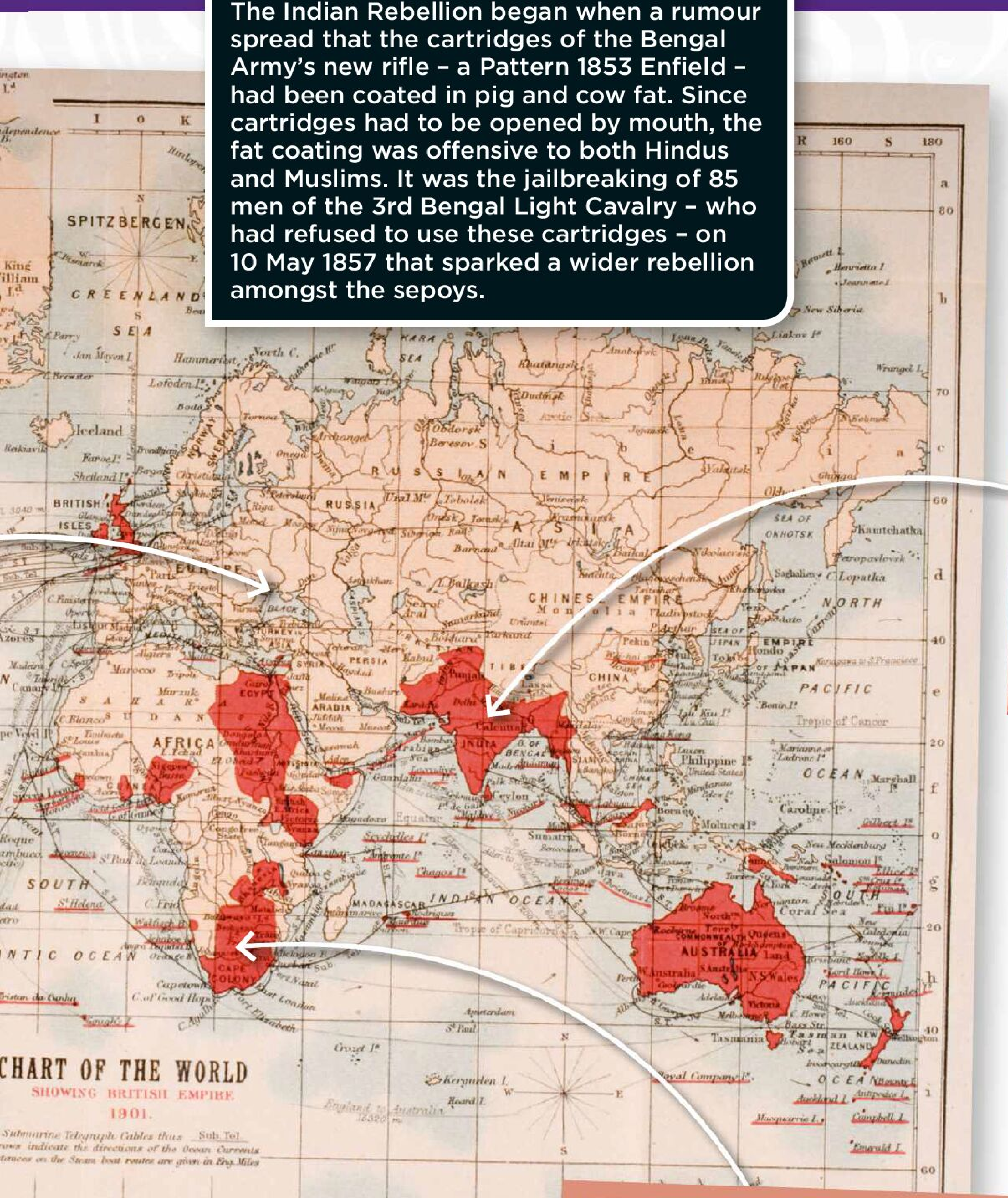
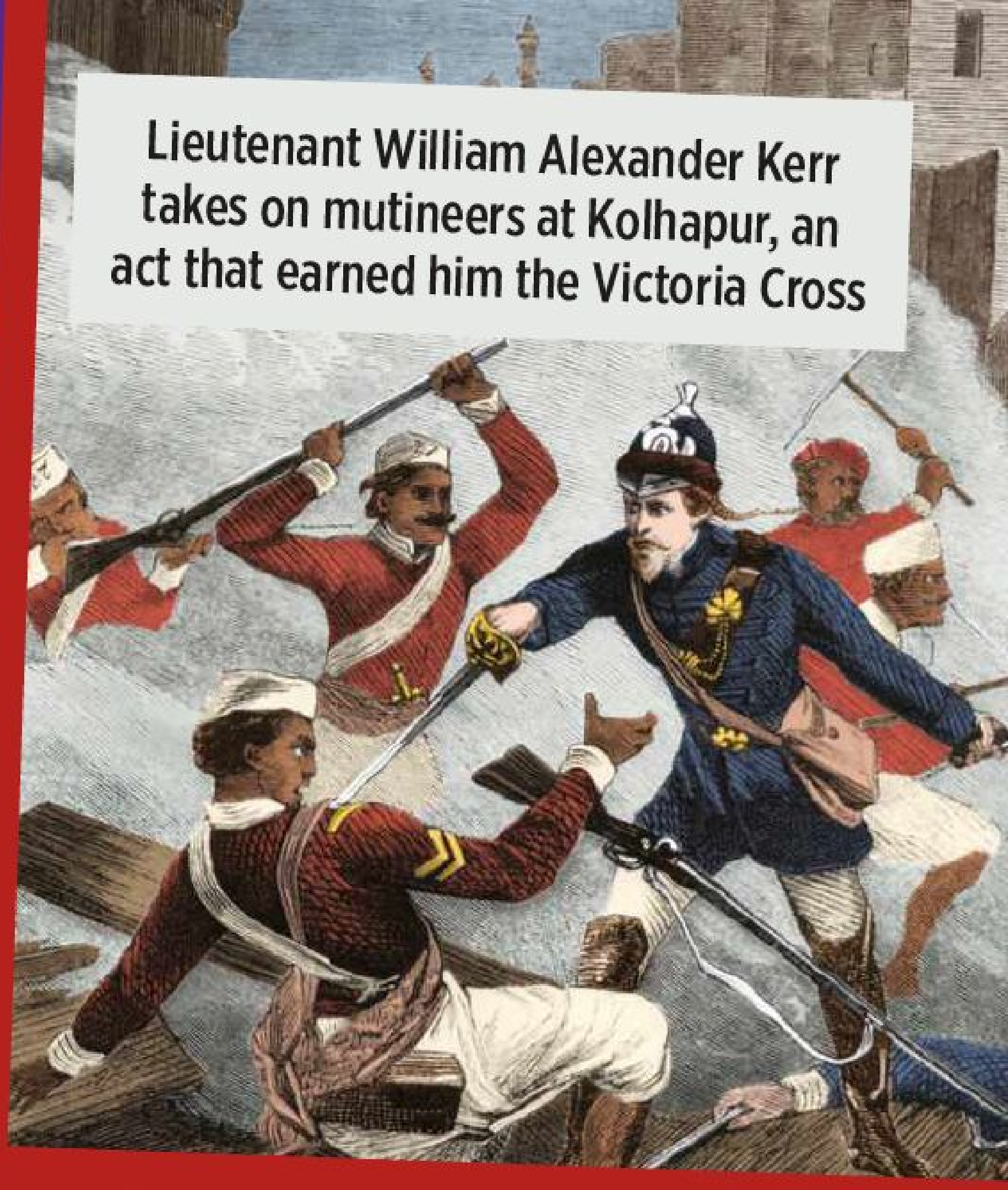


CHART OF THE WORLD
SHOWING BRITISH EMPIRE
1901
RUSSIAN EMPIRE
CHINESE EMPIRE
INDIA
AFRICA
AUSTRALIA
PACIFIC OCEAN
INDIAN OCEAN



Lieutenant William Alexander Kerr takes on mutineers at Kolhapur, an act that earned him the Victoria Cross

THE INDIAN REBELLION (1857–58)

The rebellion started with Indian soldiers against their commanders – though unsuccessful, it bolstered calls for independence

Since the 17th century, the East India Company had gradually been carving out territory in India, ultimately becoming the country's leading power at the expense of existing Indian rulers. In 1857, rebellion broke out among the Company's *sepoys* (Indian infantry) in Meerut – ostensibly over gun cartridges (*see box left*) but fuelled by wider resentments about the erosion of Indian culture – which rapidly spread to Delhi and beyond. The rebellion was quashed and the East India Company was nationalised; direct rule was imposed over India, ushering in the British Raj.

SOUTH AFRICAN WARS

(Sometimes known as the Boer Wars; 1880–81 & 1899–1902)

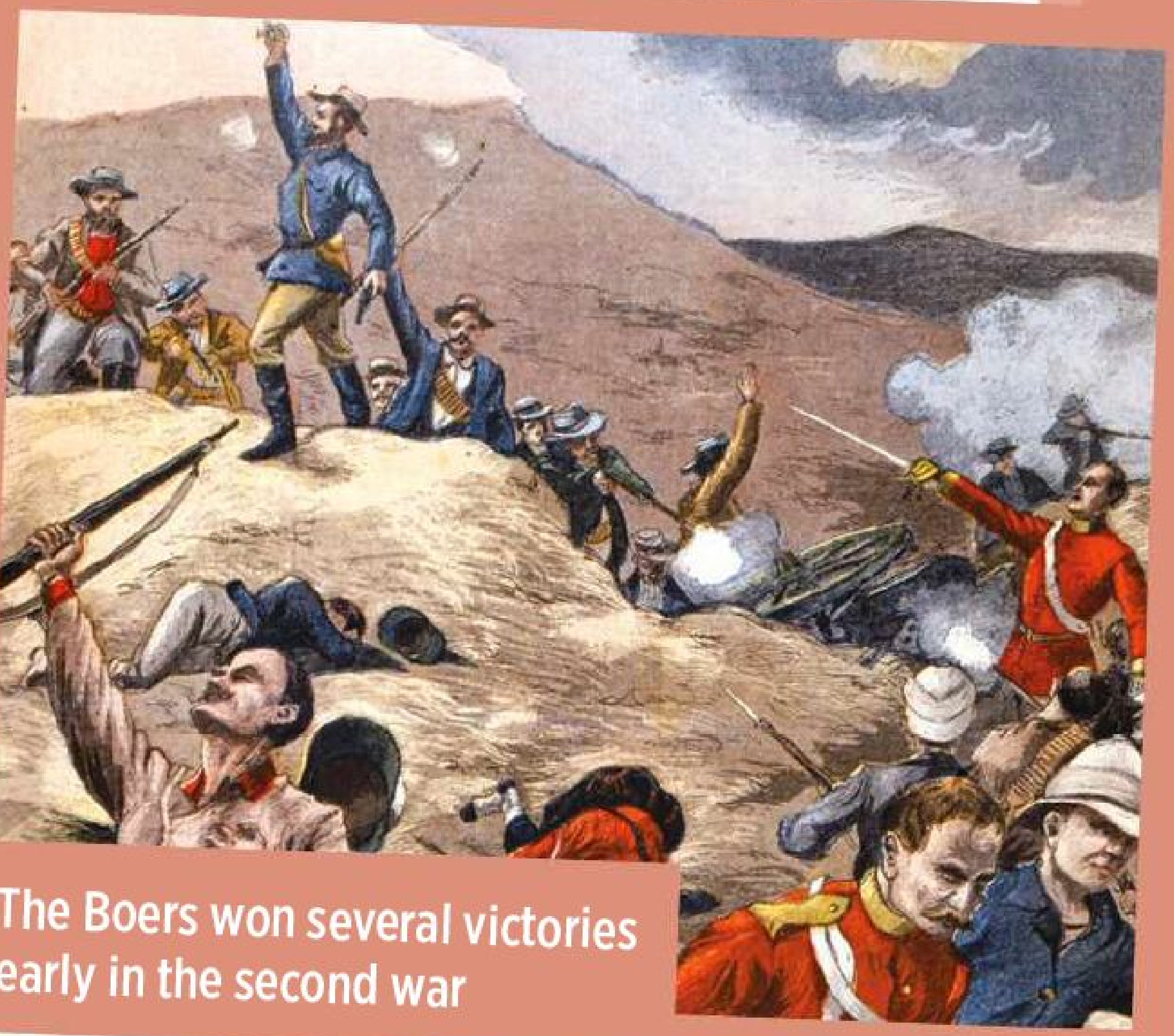
During the late 19th century, Britain tried to gain control of modern-day South Africa

In 1877, tensions between the Boers (descendants of Dutch, German and Huguenot settlers) and the British became strained after the British annexed the Transvaal (the British name for the Boers' South African Republic), and erupted into war in December 1880. The fighting was short-lived, with the Boers securing victory (and partial independence) in March – although it remained under British suzerainty. Relations soured again in 1899, a result of the discovery of gold in the region. A longer, bloodier war followed, the last two years of which the Boers fought as a guerilla campaign. The British responded by rounding up Boer women and children into camps (where many died of starvation) and deployed 'scorched earth' tactics – Boer territory was deliberately and systematically devastated to deprive the guerrilla fighters of food and shelter. The Boers eventually conceded; the treaty that followed ended Boer independence. ⊙

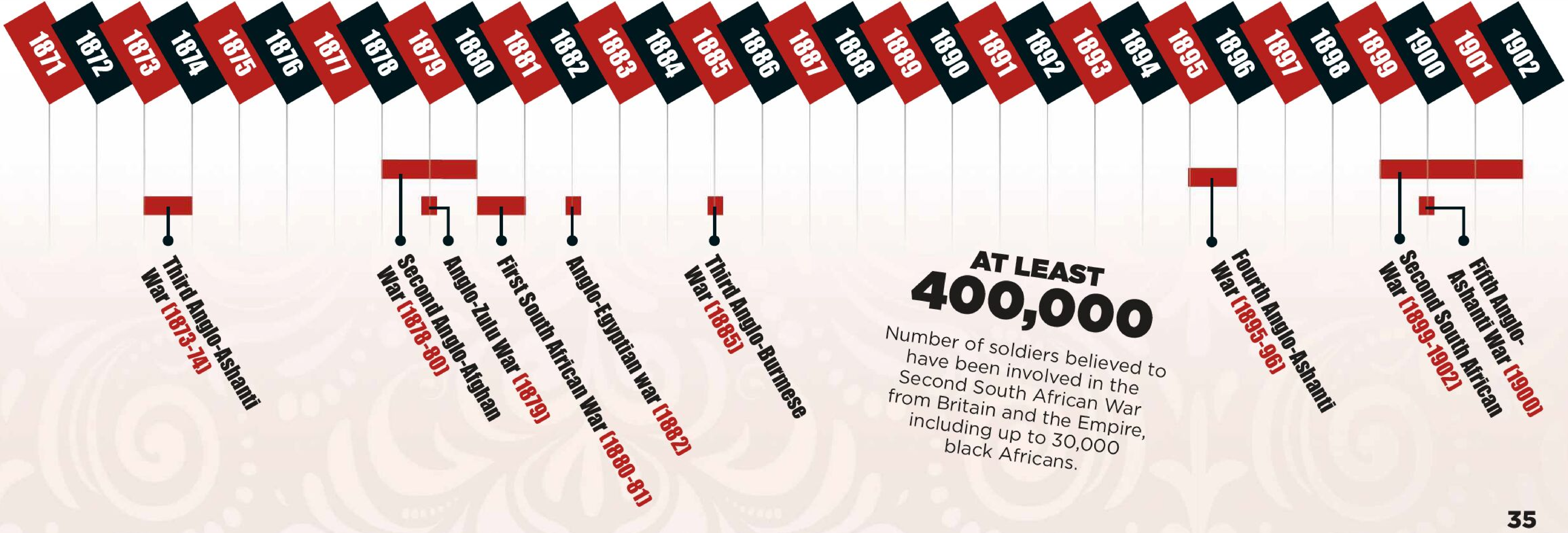
WORDS: EMMA SLATTERY WILLIAMS

A DOOMED COMMAND

During the Crimean Battle of Balaclava, the infamous Charge of the Light Brigade saw around 670 British cavalrymen charge headlong into Russian fire with little chance of survival – all due to a miscommunication of orders. The disastrous incident would later inspire poet Lord Tennyson and even heavy metal band Iron Maiden.



The Boers won several victories early in the second war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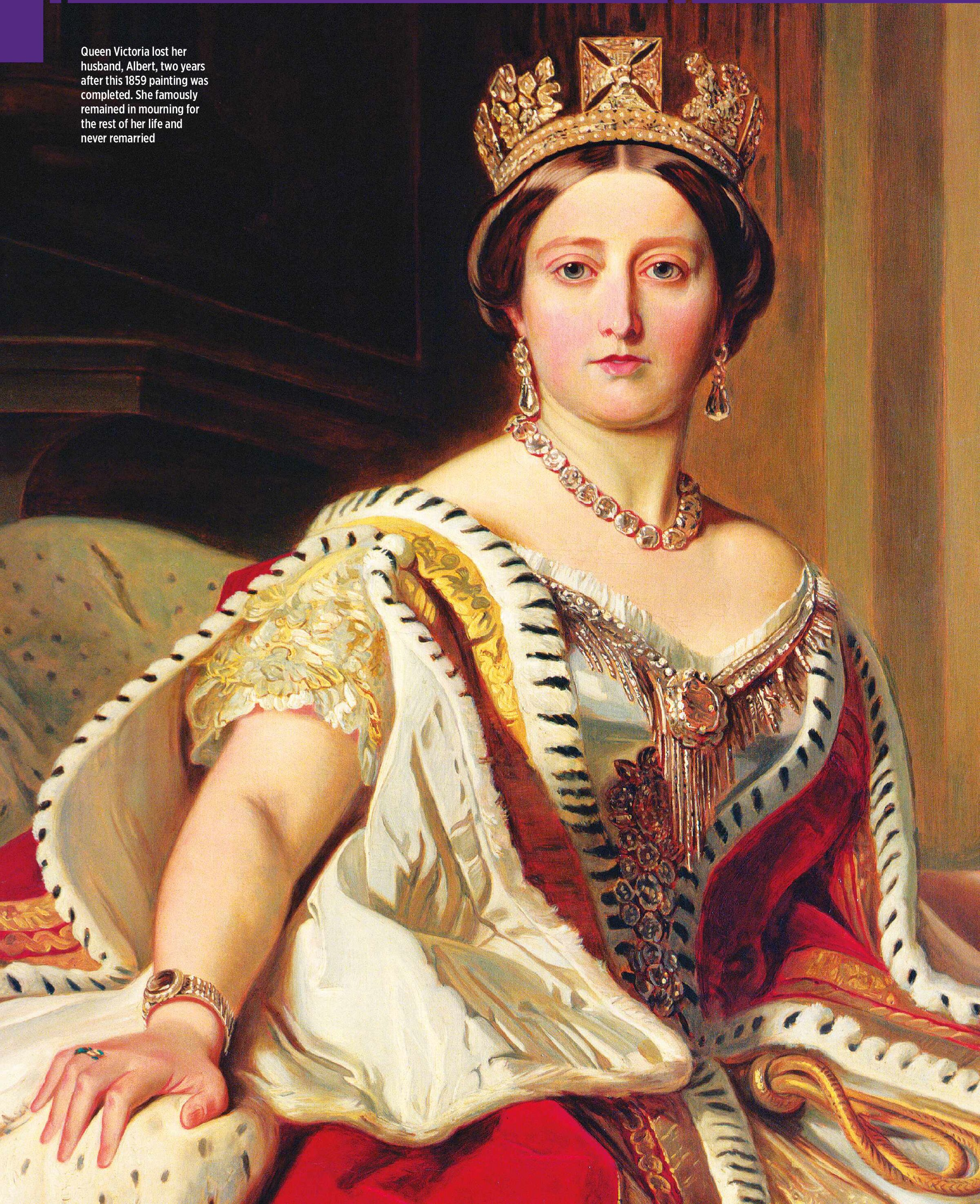
1902
Third Anglo-Ashanti War (1873–74)
Second Anglo-Afghan War (1878–80)
Anglo-Zulu War (1879)
First South African War (1880–81)
Anglo-Egyptian war (1882)
Third Anglo-Burmese War (1885)
Fourth Anglo-Ashanti War (1895–96)
Second South African War (1899–1902)
Fifth Anglo-Ashanti War (1900)

AT LEAST 400,000

Number of soldiers believed to have been involved in the Second South African War from Britain and the Empire, including up to 30,000 black Africans.



Queen Victoria lost her husband, Albert, two years after this 1859 painting was completed. She famously remained in mourning for the rest of her life and never remarried

VICTORIA: QUEEN, WIFE, MOTHER

Victoria and Albert created a new kind of royal family, free from scandal and extramarital affairs, but life behind closed doors wasn't always plain sailing

Queen Victoria is one of Britain's most iconic monarchs. Her 63-year rule surpassed any of her predecessors and was only surpassed by Queen Elizabeth II in 2015. Her rule saw Britain and its empire undergo massive change – physically, in terms of its size, and socially, too, as society was brought into the modern age.

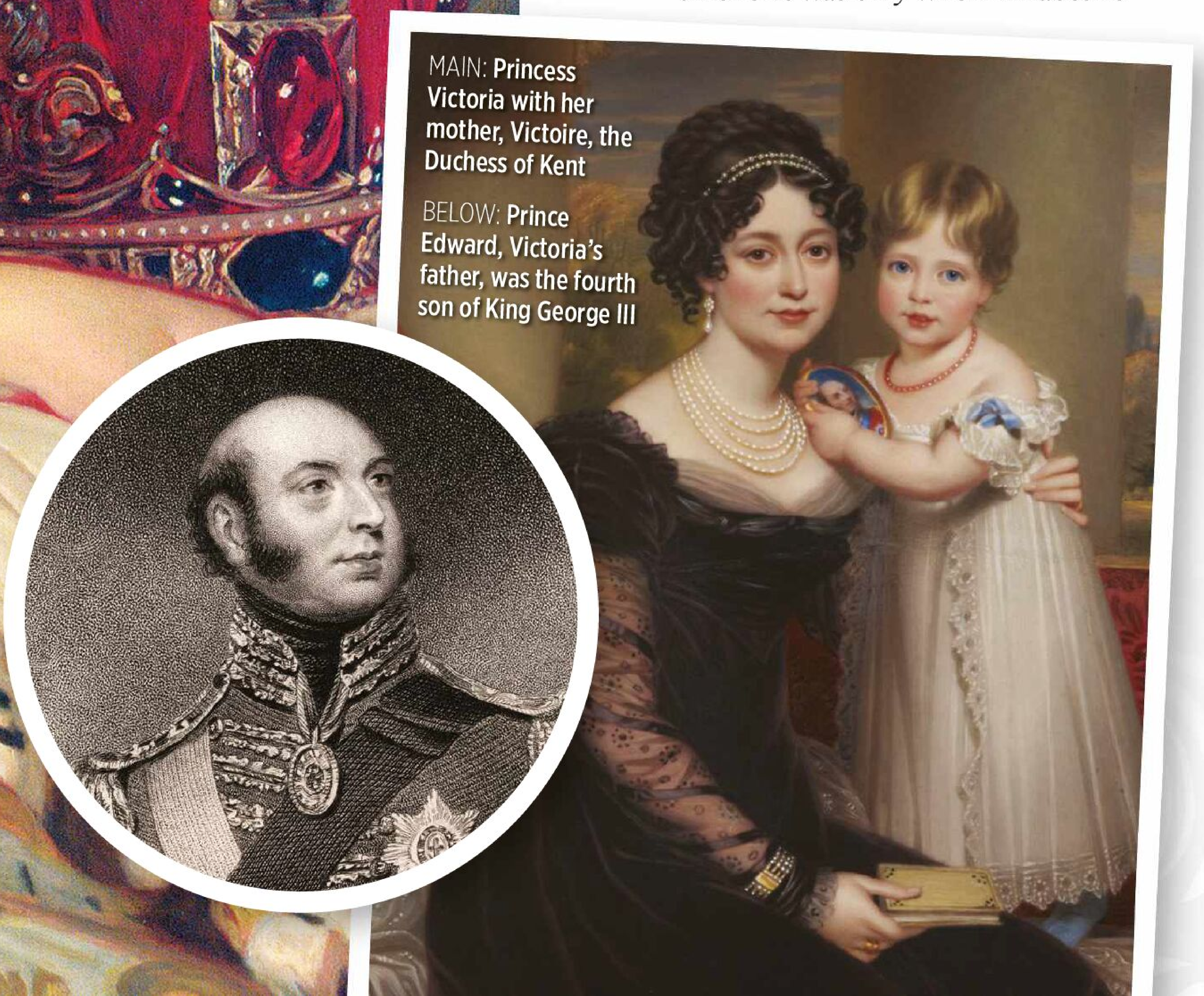
As well as her long reign, Victoria shares another similarity with Elizabeth II, as professor Sarah Richardson explains – neither was meant to be queen. "Like our own queen, Elizabeth II, Victoria grew up not expecting to inherit the throne. It was only when Elizabeth's uncle, Edward VIII, abdicated that her father, George, became king. It was pretty much the same with Victoria; as the daughter of a fourth son, it wasn't likely that she would ever become queen."

In 1817, a succession crisis loomed when Princess Charlotte, the only legitimate daughter of the Prince Regent (the future George IV), died during childbirth. George III had 15 children, but, by 1817, only one had produced a legitimate heir. The following year, George III's fourth son, Prince Edward, Duke of Kent, hurriedly married Princess Victoire of Saxe-Coburg-Saalfeld (later the Duchess of Kent), and Victoria was born on 24 May 1819.

TROUBLED CHILDHOOD

Prince Edward died when Victoria was less than a year old, and she grew up under the care of her mother and Sir John Conroy, her father's former equerry. Victoria's childhood was far from happy – Conroy and Victoire kept her under strict governance in Kensington Palace, away from other children and the royal court; she even had to be accompanied down the stairs in case an accident befell her. Hoping to wield power through the future queen, the ambitious Conroy attempted to persuade Victoria – and others – that she wasn't fit to rule. If Victoria had become queen before she was legally an adult, then a regent would have been appointed, likely the Duchess of Kent, who was under Conroy's control. To Conroy's dismay, though, Victoria celebrated her 18th birthday a month before she became queen.

In the early hours of 20 June 1837, Victoria was told that her uncle, ▸



MAIN: **Princess Victoria with her mother, Victoire, the Duchess of Kent**

BELOW: **Prince Edward, Victoria's father, was the fourth son of King George III**

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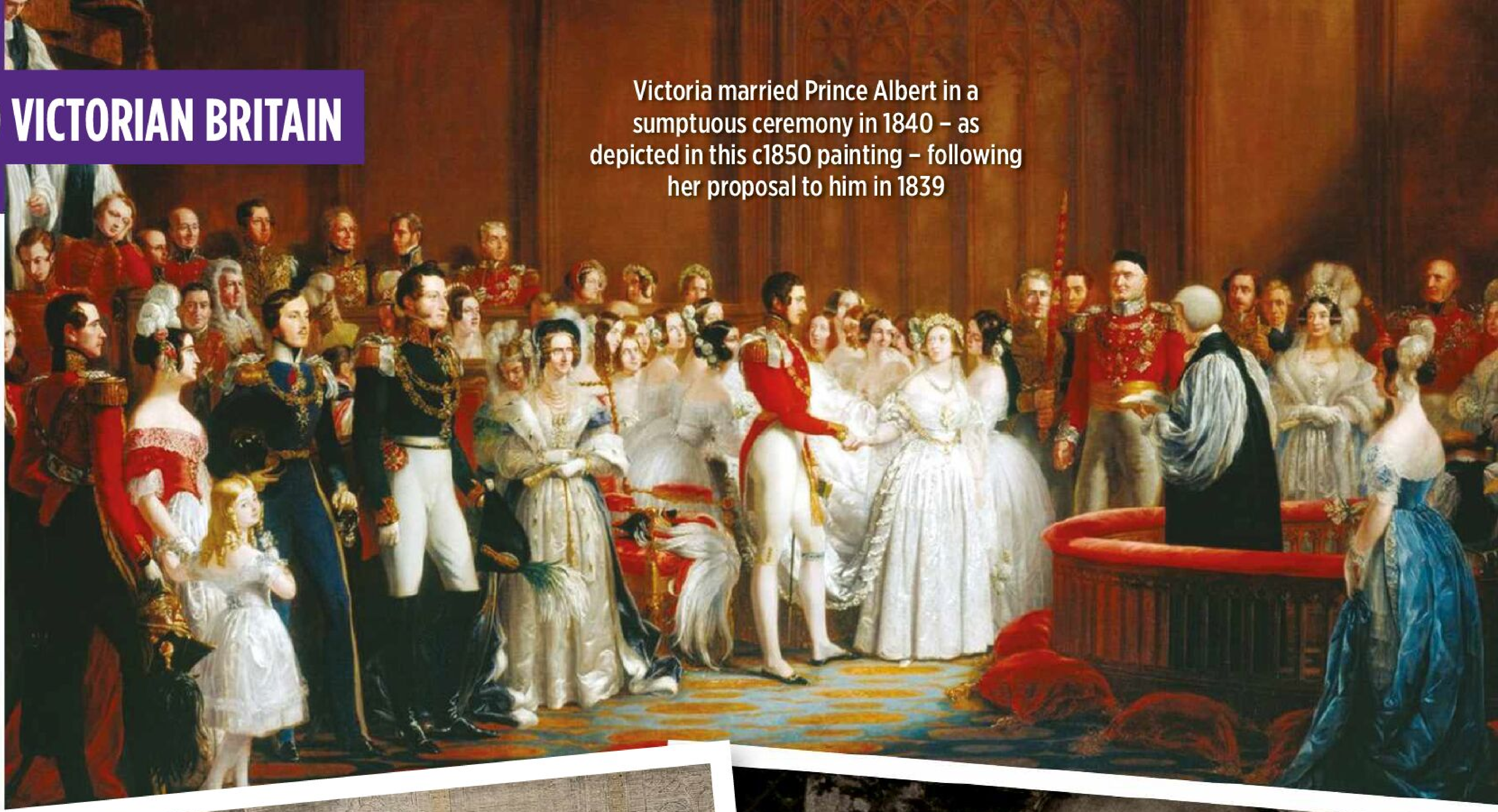


Victoria married Prince Albert in a sumptuous ceremony in 1840 – as depicted in this c1850 painting – following her proposal to him in 1839

◀ William IV, had died and that she was now Queen of Great Britain and Ireland. One of Victoria's first acts was to remove her mother from the bedroom they had shared for the young queen's entire life.

MAKING A MARK

As a woman thrust into what was at the time firmly a man's world, Victoria relied on the male figures who surrounded her. Her first prime minister, Lord Melbourne, became a favourite and father-figure to the young queen, advising her on the intricacies of politics and government that she did not fully comprehend.

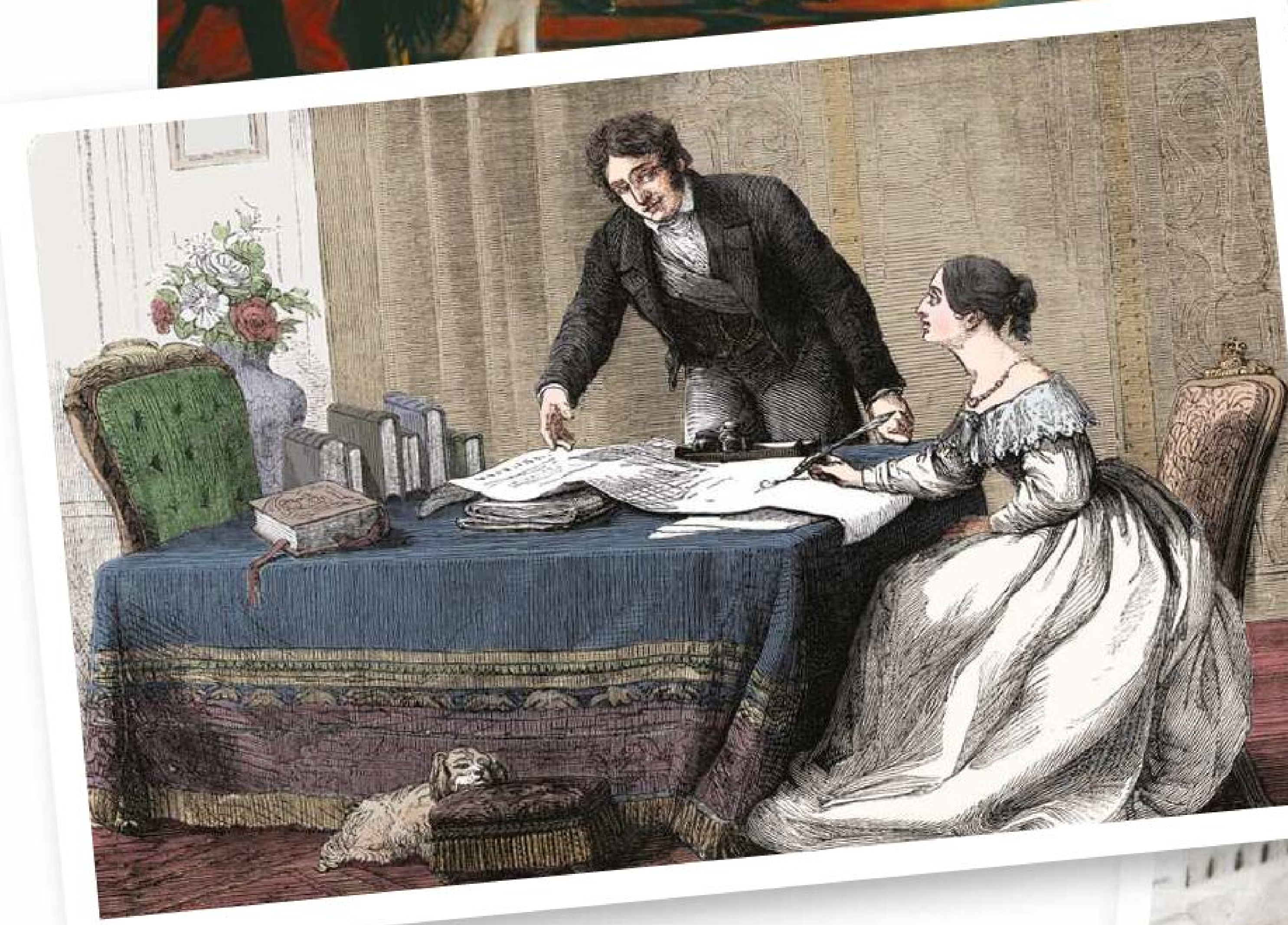
This was a theme that continued throughout her life, as Richardson points out: "Victoria was quite reliant on people guiding her - in the early part of her reign, she leaned on Prime Minister Lord Melbourne. But although she did rely on advice from male advisers, Victoria knew her own mind, and her own position. She also wanted to be able to stamp her authority on the role of the monarch. She was quite determined."

This determination was demonstrated during the Bedchamber Crisis of 1839. When Whig prime minister Lord Melbourne resigned, his successor, Robert Peel – a Tory – demanded that Victoria dismiss her Whig ladies-in-waiting in favour of Tory replacements. Victoria refused. In retaliation, Peel refused to form a government and become the country's prime minster. To resolve matters, Lord Melbourne was persuaded to stay on for another term.

LOVE AND DUTY

It wasn't long before thoughts turned to Victoria's marriage. Both her mother and her uncle, Leopold I of Belgium, wanted her to marry her first cousin, Prince Albert of Saxe-Coburg and Gotha. Victoria had first met Albert when she was 17, and he hadn't bowled her over. Further meetings changed her mind about the match and they were married in February 1840.

Victoria kept a journal throughout most of her life, and her diary entries show that she and Albert had an affectionate marriage – although tempestuous. Victoria was quick to anger, and Albert resented his lower status, both in the household and in the marriage.



ABOVE LEFT: **Prime Minister Lord Melbourne (shown in this c1895 print) was a strong influence during Victoria's early reign**

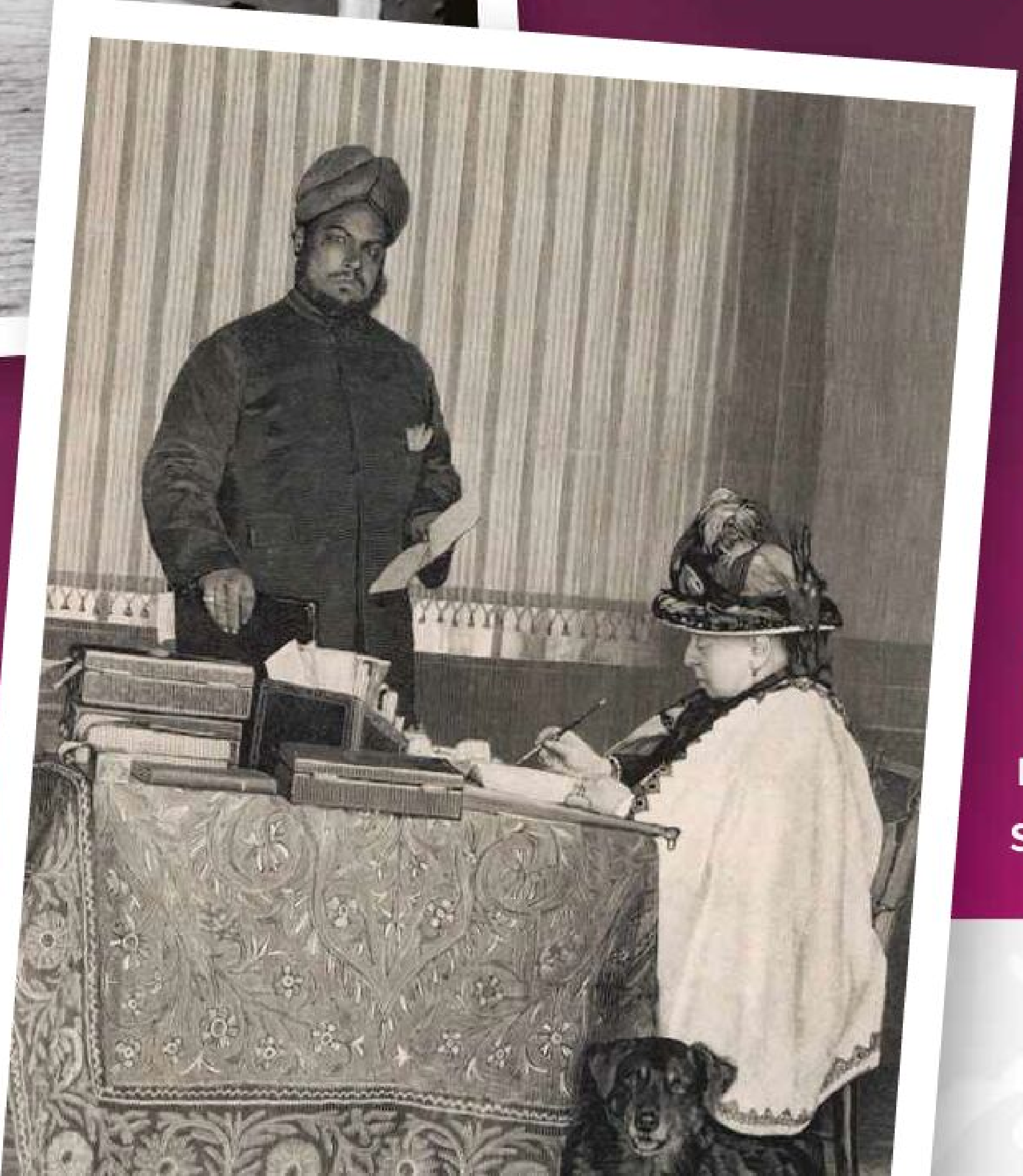
ABOVE RIGHT: **Victoria and Albert were seen as the model Victorian family**

LIFE AFTER ALBERT

Victoria found companionship with two male servants after Albert's death

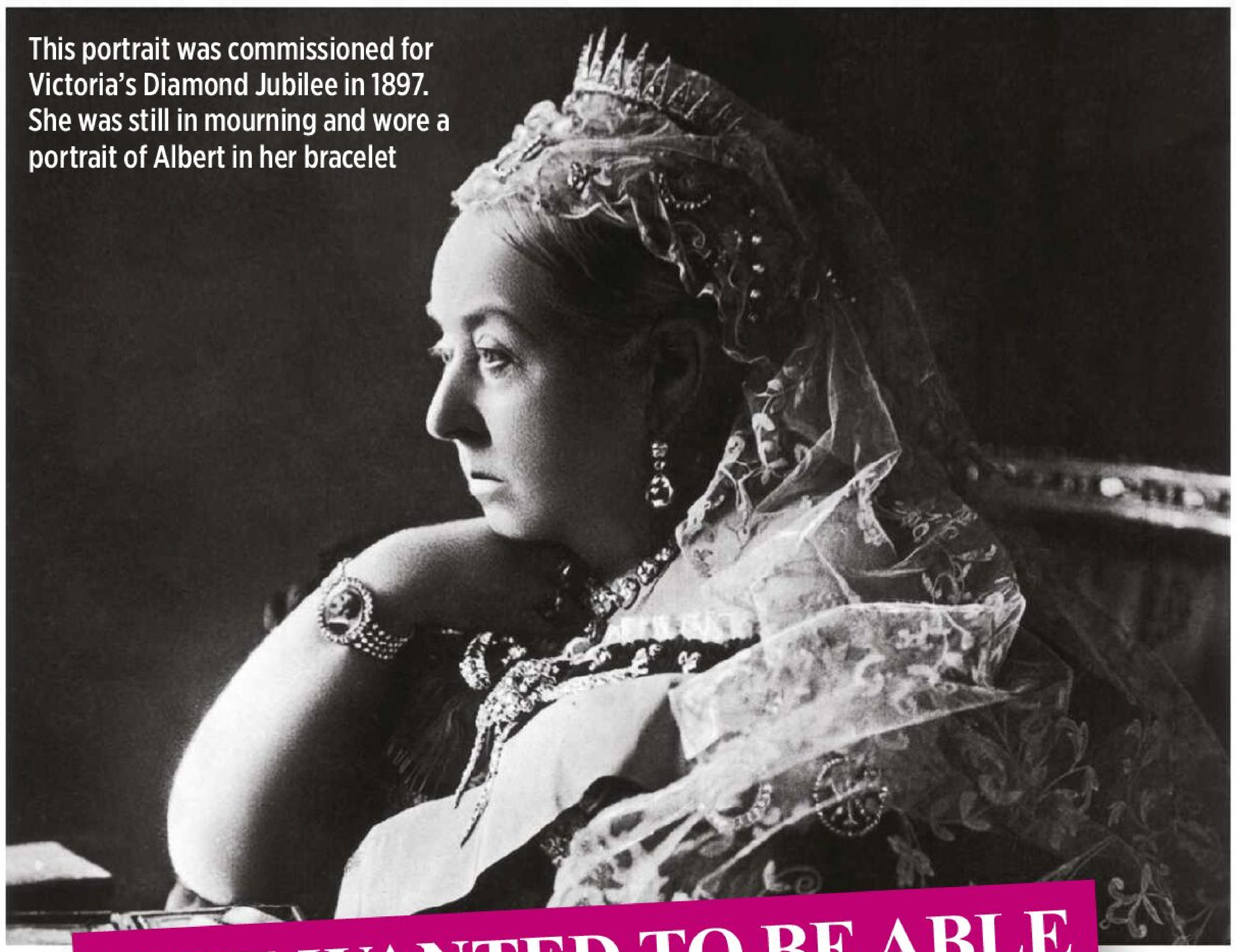
Albert's untimely death caused Victoria to withdraw from the world. However, there were two male servants with whom she struck up notable friendships. John Brown worked at the Scottish royal residence Balmoral, and encouraged the queen to come out of her seclusion for pony rides. He fulfilled a role that Victoria had lost when Albert died, as Richardson suggests: "John Brown played the role of confidante, of somebody Victoria could unload on. And I think that was probably very important for her, because she never remarried."

In 1877, Victoria officially received the title of Empress of India and became fascinated with the country. In 1887, an Indian servant, Abdul Karim, became a particular favourite of hers. He taught her to read and write in Urdu and introduced her to curry – a dish she became very fond of. Victoria gave Karim the title of *Munshi* (teacher), and took advice from him on Indian affairs. The closeness between the queen and her Indian servant caused uproar and disapproval in the royal household; when Edward VII came to the throne he sent Karim back to India and burned much of the pair's correspondence.



ABOVE: **John Brown brought Victoria out of her shell with pony rides at Balmoral**

RIGHT: **Abdul Karim taught Victoria to read and write Urdu**



This portrait was commissioned for Victoria's Diamond Jubilee in 1897. She was still in mourning and wore a portrait of Albert in her bracelet

> **"SHE WANTED TO BE ABLE TO STAMP HER AUTHORITY ON THE ROLE OF THE MONARCH. SHE WAS QUITE DETERMINED"**

Albert was very interested in politics and soon took over the role that Melbourne had once performed. "Once Victoria married Albert, he acted as her political adviser; he was much more politically aware than she was," says Richardson. Albert was also fascinated with social reform (he supported the abolition of slavery for example) and innovation, spearheading the Great Exhibition of 1851. This grand spectacle championed Britain as a world leader in industry and attracted exhibitors and visitors from all over the world.

MOTHER TO THE NATION

Pregnancy was one aspect of marriage that Victoria did not relish. In total, she and Albert had nine children, all of whom survived childhood, and it's thought the queen may have suffered from post-natal depression after some of these pregnancies. Victoria also disliked the fact that motherhood took her away from her role as queen, with Albert taking over some of her duties.

While Victoria is often seen as a rather distant parent who herself admitted to a dislike of babies, Albert took a great interest in his children's development and education, holding them to very high standards. Both were extremely devoted parents in their own ways, and together Victoria, Albert and their children became the epitome of the model Victorian family. Victoria's predecessors had often been plagued by scandal, with illegitimate children and mistresses, and she was keen to restore the monarchy's reputation.

But in 1861, Victoria's world crumbled when Albert died, probably from typhoid. The queen went into a period of deep mourning and wasn't seen in public for a number of years. She continued to wear black for the rest of her reign, but returned to public life in 1872 – her first public appearance in over 10 years was a thanksgiving service for her son, Edward, Prince of Wales, who had recovered from a bout of typhoid.

During Victoria's long absence, republican sentiment grew, but much of this was put to rest towards the end of her reign as she emerged from her seclusion. The celebrations for her golden and diamond jubilees in 1887 and 1897 respectively, saw the whole nation enjoy festivities and parties.

Queen Victoria died on 22 January 1901, at the impressive age of 81. She was buried with a plaster cast of Albert's hand as well as a lock of her manservant – and rumoured lover – John Brown's hair (*see box on opposite page*). She had succeeded in restoring the royal family's reputation as a family to admire and emulate.

WORDS: EMMA SLATTERY WILLIAMS

GRANDMOTHER OF EUROPE

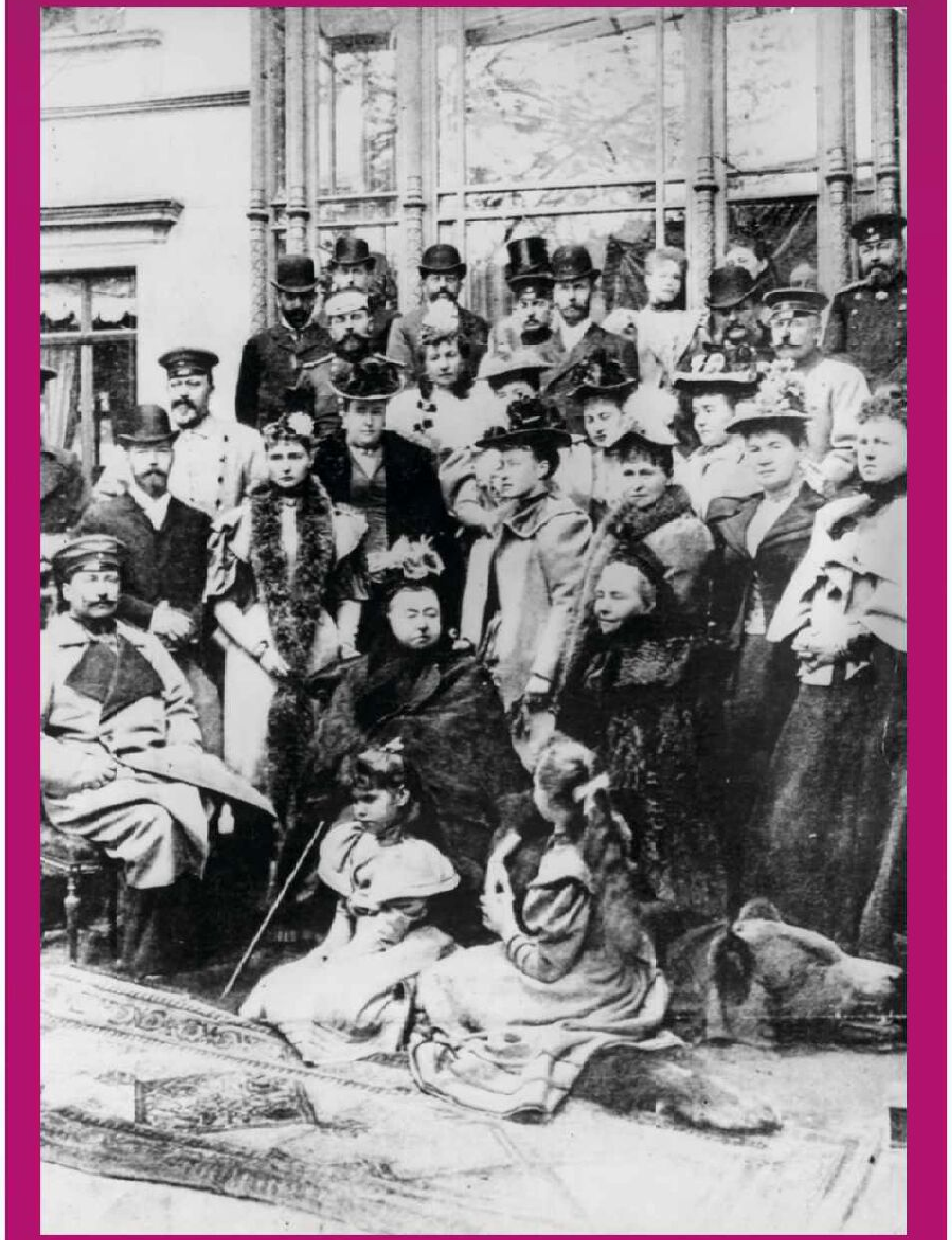
Victoria's descendants were scattered across Europe, connecting royal dynasties

Victoria was certainly a matchmaker with her nine children and 42 grandchildren – ensuring dynastic alliances across Europe and earning her the title of the 'grandmother of Europe'. Her descendants were married into the monarchies of Denmark, Russia, Germany, Spain and Norway.

The queen's eldest son, the future Edward VII, had a difficult upbringing. As heir to the throne, both Victoria and Albert expected a lot of him, but he didn't excel academically. As he grew up, Edward gained a reputation as a playboy and represented a new breed of the fashionable elite. Two weeks before his own death, Albert had reprimanded Edward for having a scandalous affair with an actress. Albert returned home and soon fell ill and died; Victoria would hold Edward partly responsible for his father's death. .

Victoria's eldest daughter, Vicky, the Princess Royal, married Prince Frederick of Prussia, and their first son became Kaiser Wilhelm II of Germany. During World War I, cousin was pitted against cousin – Wilhelm even suggested that World War I may not have happened if Victoria was still alive, as she would not have allowed it to happen.

One of Victoria's favourite granddaughters, Princess Alix, the daughter of Princess Alice, married the future Tsar Nicholas II of Russia. She – along with her husband and children – met a horrific end after the Russian Revolution when they were assassinated by the Bolsheviks.



Victoria and her family in 1894. Kaiser Wilhelm II sits in the front row, far left, with Tsar Nicholas II behind, and the future Edward VII behind him

GETTY IMAGES X5, ALAMY X2

The middle classes increasingly indulged in leisure activities, such as this family on a rowing boat, c1865

VICTORIAN DAILY LIFE

As the rich got richer on the spoils of the empire, the working classes suffered grinding poverty

The Victorian era is widely regarded as a golden age of innovation and industry, when humanity made great leaps in technology and thinking. But what was life like for 'ordinary' Victorians whose daily struggle for survival was far away from the sweeping progress and prosperity? "Pretty grim", answers Professor Sarah Richardson. "Life expectancy at birth for the average Victorian was about 42, and more than 25 per cent of children died before their fifth birthday. Disease was rife – there were four major outbreaks of cholera alone between 1832 and 1866. And although, in general, standards of living did improve over the period, a third of the population was still living in poverty at the end of the 19th century.

"Of course, there was some light on the horizon – universal education came in during the 1870s, there were improvements in health and sanitation, and also the introduction of leisure pursuits such as football, libraries, music halls and the like. So it wasn't all doom and gloom, but life wasn't a positive story for most Victorian working-class people."

GRIM CITY LIVING

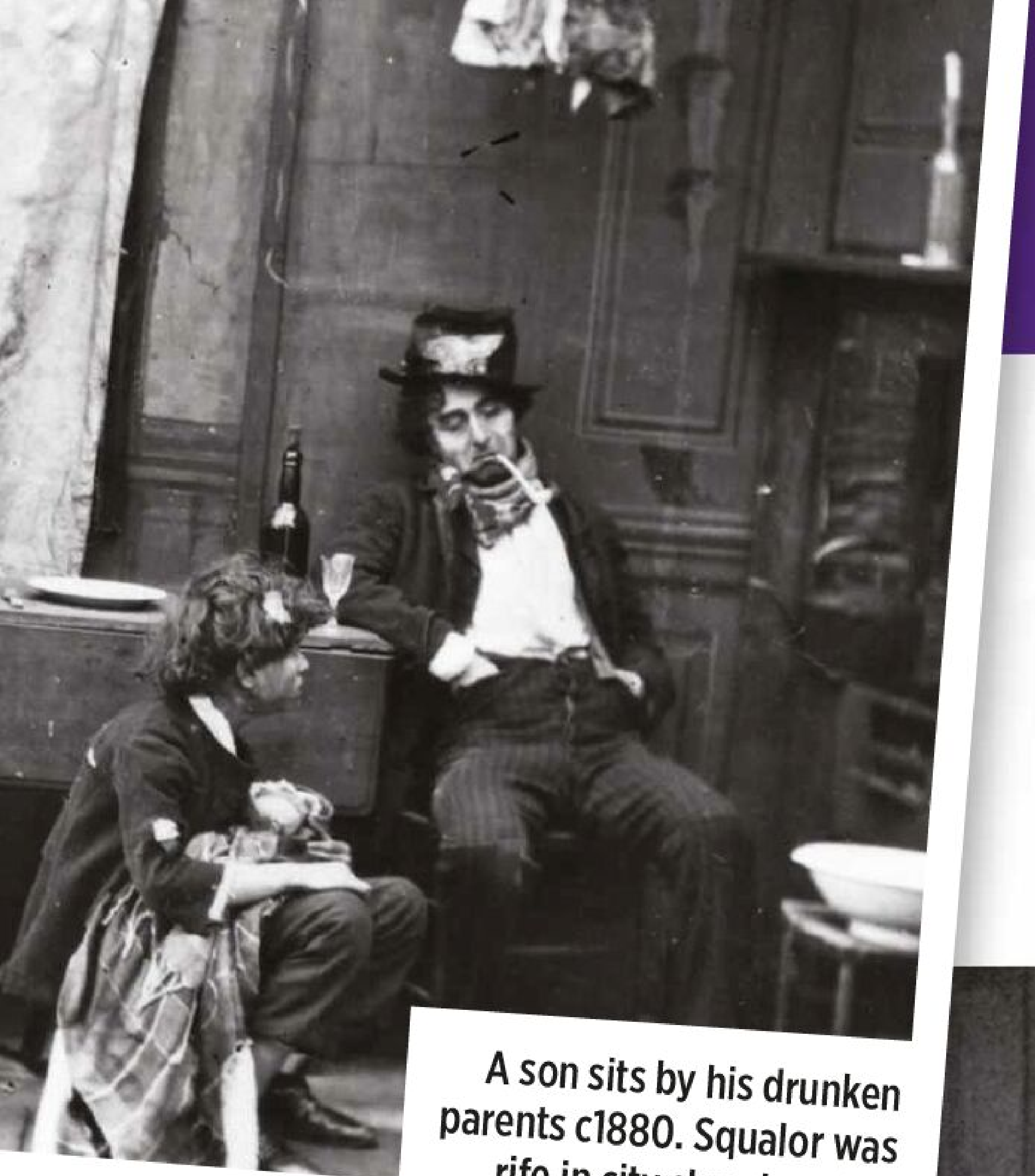
Between 1800 and 1850, England's population doubled, and as factories sprung up across the country, churning out the products of Britain's imperial expansion, and new technology meant fewer farm workers were needed, thousands flocked from the countryside to the city in search of work. The cost of accommodation rocketed as demand increased, and many families were forced to live side by side in slum housing – hastily built houses, known as tenements, divided into individual rooms in which entire families would live. Conditions were terrible: many houses flooded or collapsed, and sanitation was non-existent. Lodging, or 'doss', houses were common, renting out cheap beds for the night.

For the homeless, an alternative to sleeping on the streets or entering the workhouse was a 'penny sit-up' where, for the price of a penny, you could sit – but not lie – on a bench for the night. Two pence could see you upgraded to a bench with a rope strung up to lean over, while four pennies would pay for a wooden coffin in which to bed down.

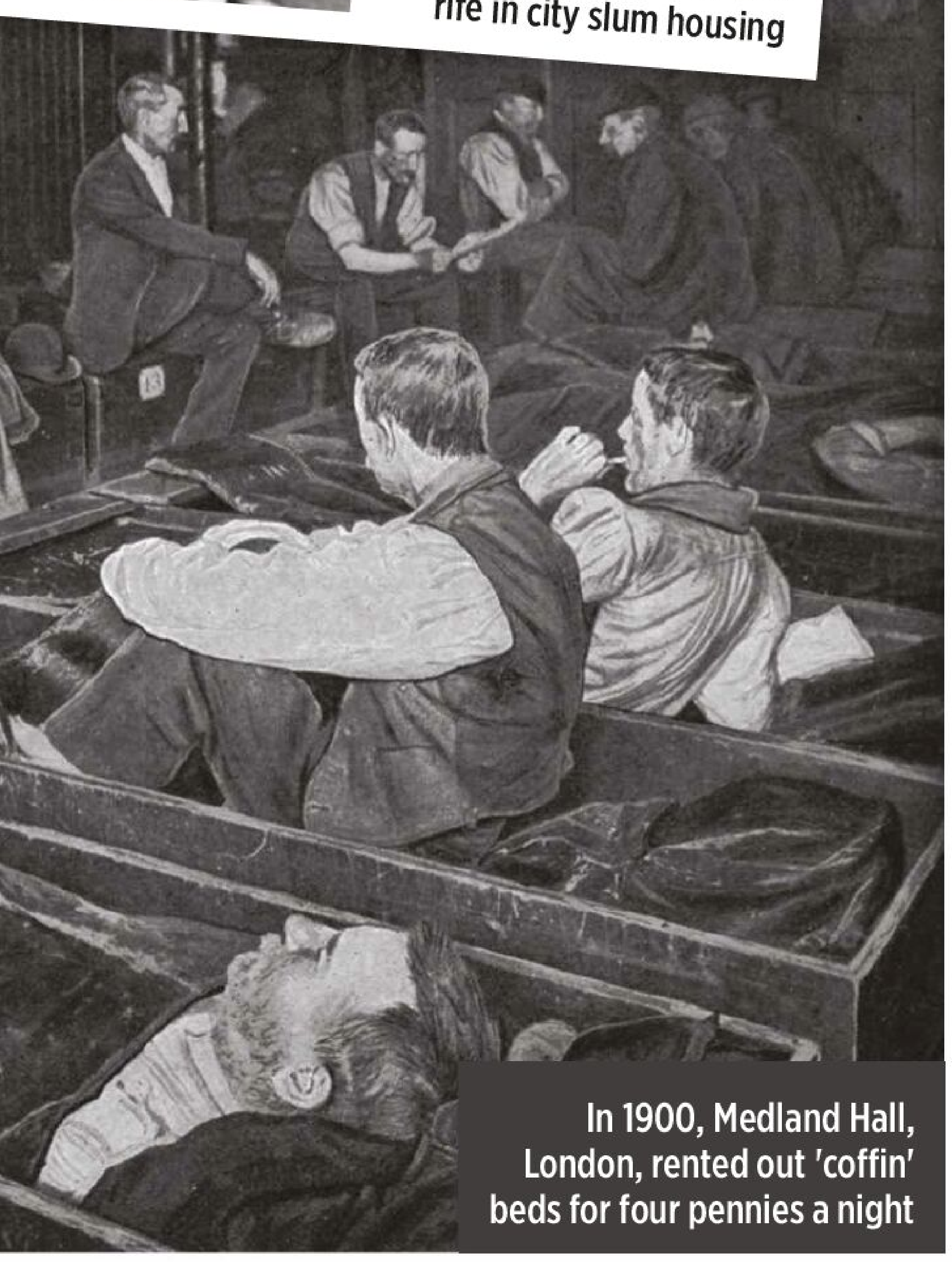
Poor children fared little

Child workers, like this street peddlar, were a common sight in Victorian times

GETTY IMAGES X6



A son sits by his drunken parents c1880. Squalor was rife in city slum housing



In 1900, Medland Hall, London, rented out 'coffin' beds for four pennies a night

better. Until 1842, when new laws were introduced which prevented children under 10 working underground, children made up 25 per cent of the workforce in mines, factories, and workshops. Infants as young as four could be found deep underground, holding open ventilator doors for coal wagons to pass through, usually pushed by other children. Britain's factories, too, employed thousands of child workers – smaller than adults, they could crawl beneath moving machines to clean and tidy. It's small wonder that accidents and deaths were so common.

If you were lucky enough to have been born into a middle-class family, though, – a social class of merchants, bankers, doctors and the like, which emerged and grew rapidly during this period - life would have been easier. As the Empire expanded and industry grew, the newly rich enjoyed the sorts of luxuries once afforded only by the super wealthy. Domestic servants could be hired, shopping trips taken and even excursions to the seaside were possible. The Victorian era was a golden age for the middle class. ⊙

WORDS: CHARLOTTE HODGMAN

LIFE IN THE WORKHOUSE

The Victorian period saw a dramatic shake-up of existing forms of social welfare, and the expansion of one of the era's most notorious institutions

One of the biggest changes to the lives of the poor took place in 1834, when, faced with the return of unemployed or injured servicemen from the Napoleonic Wars and a national poor relief bill that had quadrupled between 1795 and 1815 – from £2 million to £8 million – the British government passed the Poor Law Amendment Act.

The new system of poor relief was now administered by Unions – made up of groups of parishes – which would each operate a workhouse. Outdoor relief (money or assistance issued without requiring an individual to enter an institution) was mostly abolished: for the able-bodied poor, it was now the workhouse or nothing.

The workhouse was designed to be a deterrent, and life inside its walls was not supposed to be any easier or more pleasant than life as one of the lowest-paid workers outside in the community – the decision to enter was not one that was taken lightly. After being admitted to the workhouse, personal clothes were placed in storage, and inmates were issued with uniforms, given baths and subjected to medical examinations. Families were separated, as were the able and infirm. Men were put to work, performing physical labour such as bone crushing, stone breaking or oakum picking, while women were expected to take on domestic chores, such as cooking, laundry and sewing. Children, too, lived separately and were only permitted to see their parents for a few hours a week.

Food was basic and sparse. Inmates were usually provided with between 137 and 182 ounces of food per week, in addition to soup and gruel. At Andover Union Workhouse in Hampshire, inmates were so hungry that they were found gnawing at the old, mouldy animal bones they were meant to be crushing for fertiliser.

But entering the workhouse did not necessarily mean staying there forever. Many inmates who were employed in seasonal work used the workhouse to get through periods of hardship and unemployment.

One enduring problem faced by Victorian Poor Law Unions was how to assist the homeless poor, for whom no provision had been made in the 1834 act. What's more, Unions were only permitted to serve people who resided permanently within the Union boundaries. In 1840, casual blocks were introduced to workhouses, where homeless people could stay for one night per 30-day period. Although it varied from place to place, homeless people were generally subjected to harsher treatment than the so-called 'deserving poor' – those unable to work because they were sick, old or disabled.

The workhouse era is often seen to have officially ended in 1930, when the 643 Boards of Guardians in England and Wales were abolished. Many former workhouse buildings were destroyed, converted into public hospitals, or turned into museums – in remembrance of those Victorians who had nowhere else to turn.

DID YOU KNOW?

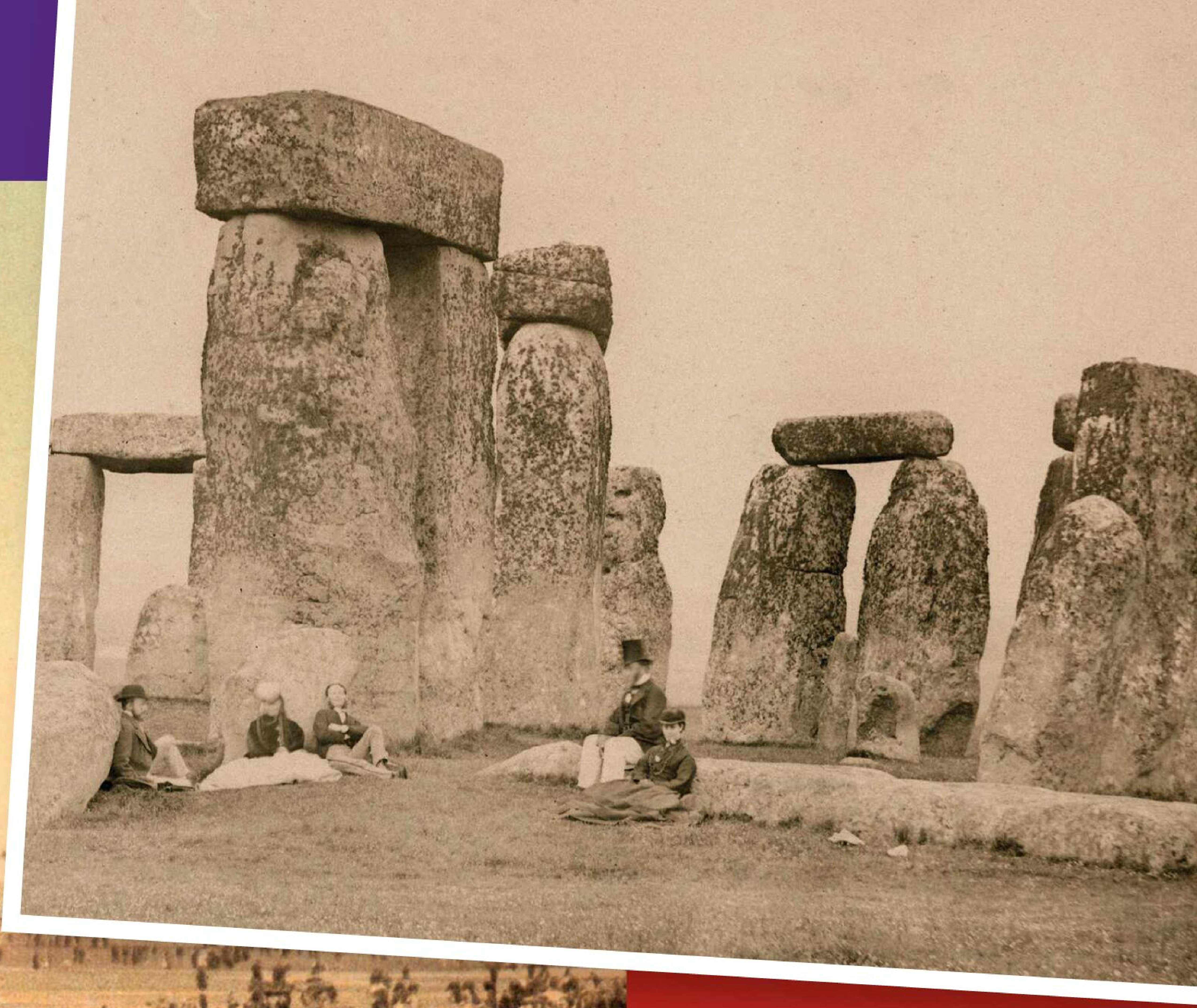
FOOD FOR THOUGHT

In 1900, a major overhaul was made to the workhouse diet, and Unions were allowed to create their own weekly menus from an approved list of about 50 dishes. Inmates could now tuck into Irish stew, pasties and roly-poly pudding.

Workhouses were meant to be unpleasant. Inmates worked hard (like these women hanging out laundry c1880). Reforms in 1900 improved the variety of workhouse food, although meals were still eaten in silence (*right*)

TEA, TOURS AND TOP HATS

When it came to getting away from it all, our forebears weren't all that different from us…



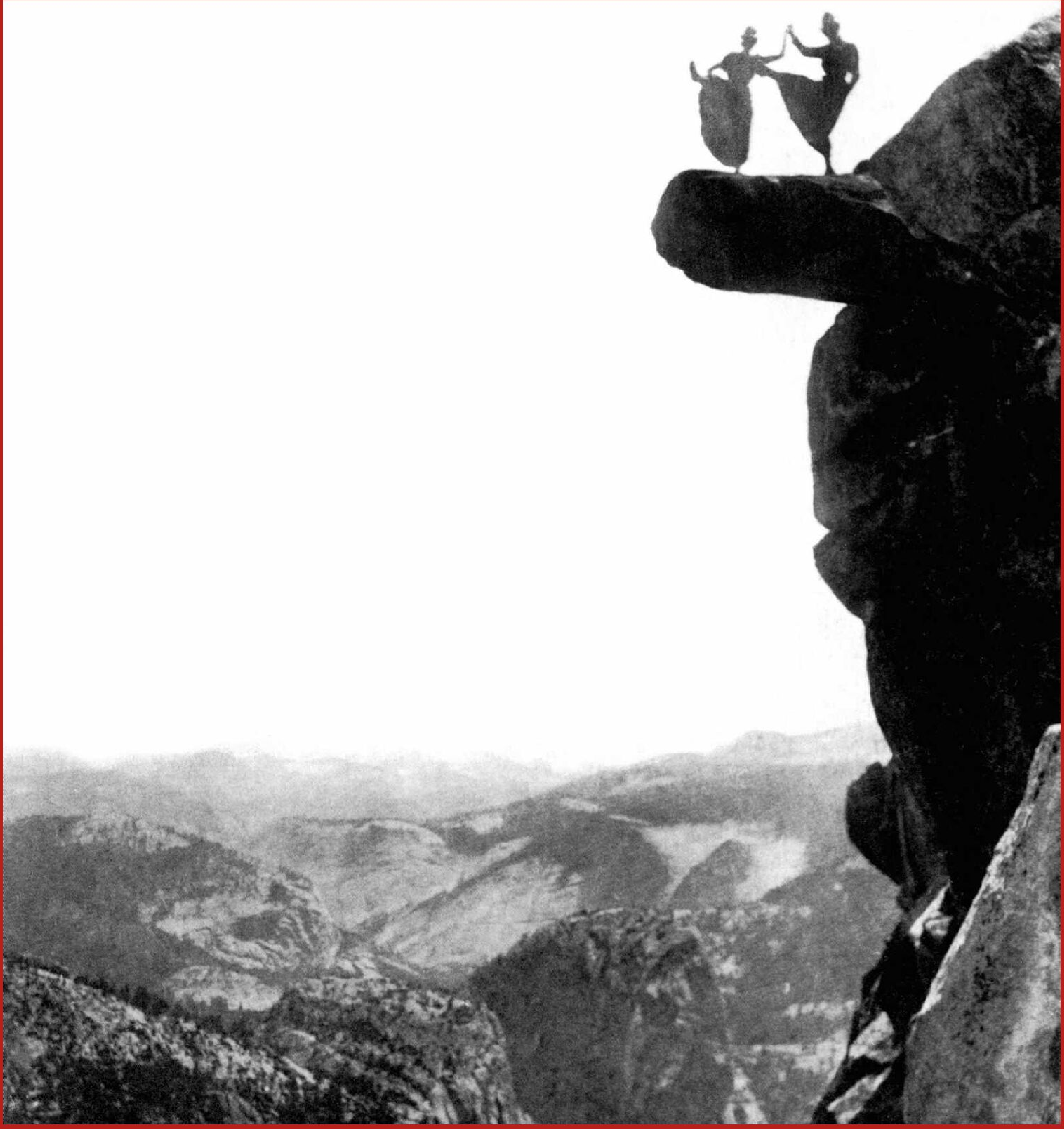
STANDING STONES

▲ Much as it does today, Stonehenge has fascinated and intrigued visitors for centuries. In fact, it was common for Victorian tourists to visit the Neolithic monument armed with a hammer and chisel so that they could take some of the rock home as a souvenir. Thankfully, these sightseers – pictured in the 1860s – seem to be content with merely relaxing against the ancient stones.

SUN, SEA AND SILK SKIRTS

◀ The expansion of the railways in Britain during the 1840s revolutionised Victorian travel and opened people's eyes to the joys of the seaside. The refreshing sea air and sandy beaches of coastal locations like Blackpool, seen here in c1890–1900, quickly became popular holiday destinations for many Victorians. But social standards had to be maintained: crinolines, corsets, hats and bustles made up 19th-century beachwear, whatever the weather.

ALAMY X2



DON'T LOOK DOWN

◀ The 19th century boasted its fair share of thrillseekers if this photograph, taken in c1900, is anything to go by. Seemingly unconcerned about the potential dangers of such a stunt, waitresses Kitty Tatch and Katherine Hazelston kick up their skirts on the edge of the famous Overhanging Rock at Glacier Point in California's Yosemite National Park – a dizzying 3,200ft above the ground below.

EASTERN DELIGHTS

▼ The British had a presence in India from the 17th century, when the British East India Company first set up a trading post at Surat, in what is now the western Indian state of Gujarat. But it was during the 19th century, following the creation of the British Raj in 1858, that India's cultural influence on British society reached its zenith. This image, taken in the 1890s, shows a group of European travellers to India taking an elephant ride. Thanks to the opening of the Suez Canal in 1869, the journey from Britain to India had been reduced by some 4,500 miles, taking around three weeks rather than up to six months.

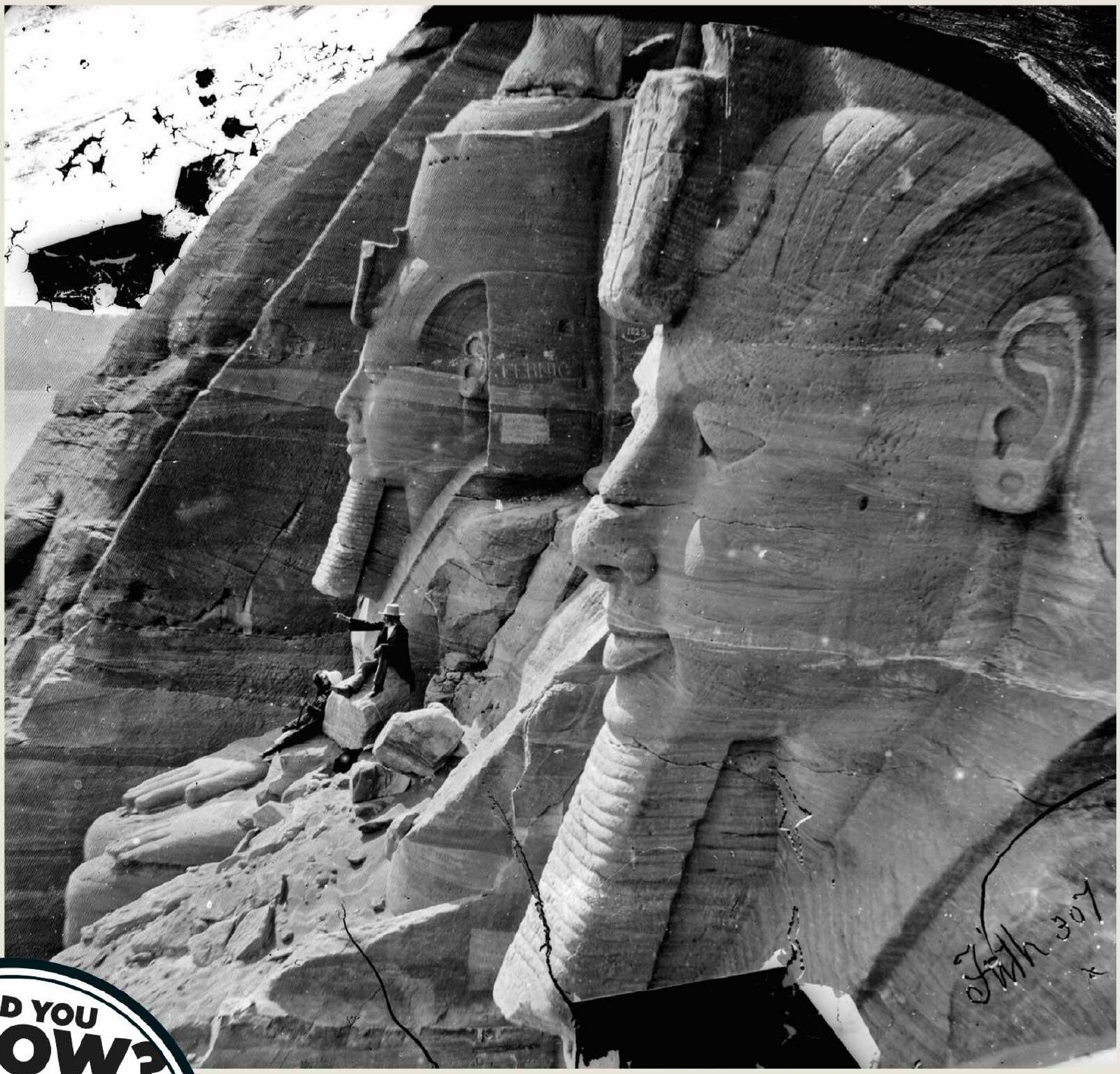
SKY HIGH

▲ One of France's most iconic sights, the Eiffel Tower was built for the 10th Exposition Universelle, a world fair held in Paris from 5 May to 31 October 1889. Nearly 2 million people – a handful of whom are shown here – flocked to see the then tallest tower in the world over the course of the event, with almost 30,000 visitors climbing the 1,710 steps to the top in the first week.

GETTY IMAGES X3, ALAMY X2

FACE TO FACE WITH HISTORY

▶ Look closely at this image – taken by photographer and traveller Francis Frith in c1857 – and you can just about make out the figure of a man who has clambered up two of the colossal statues that flank the entrance to the Abu Simbel temples in Nubia, Egypt. Abandoned, covered in sand and unknown to the outside world until 1813 when they were rediscovered by Swiss researcher Johann Ludwig Burckhardt, the site would become hugely popular with Victorian tourists.



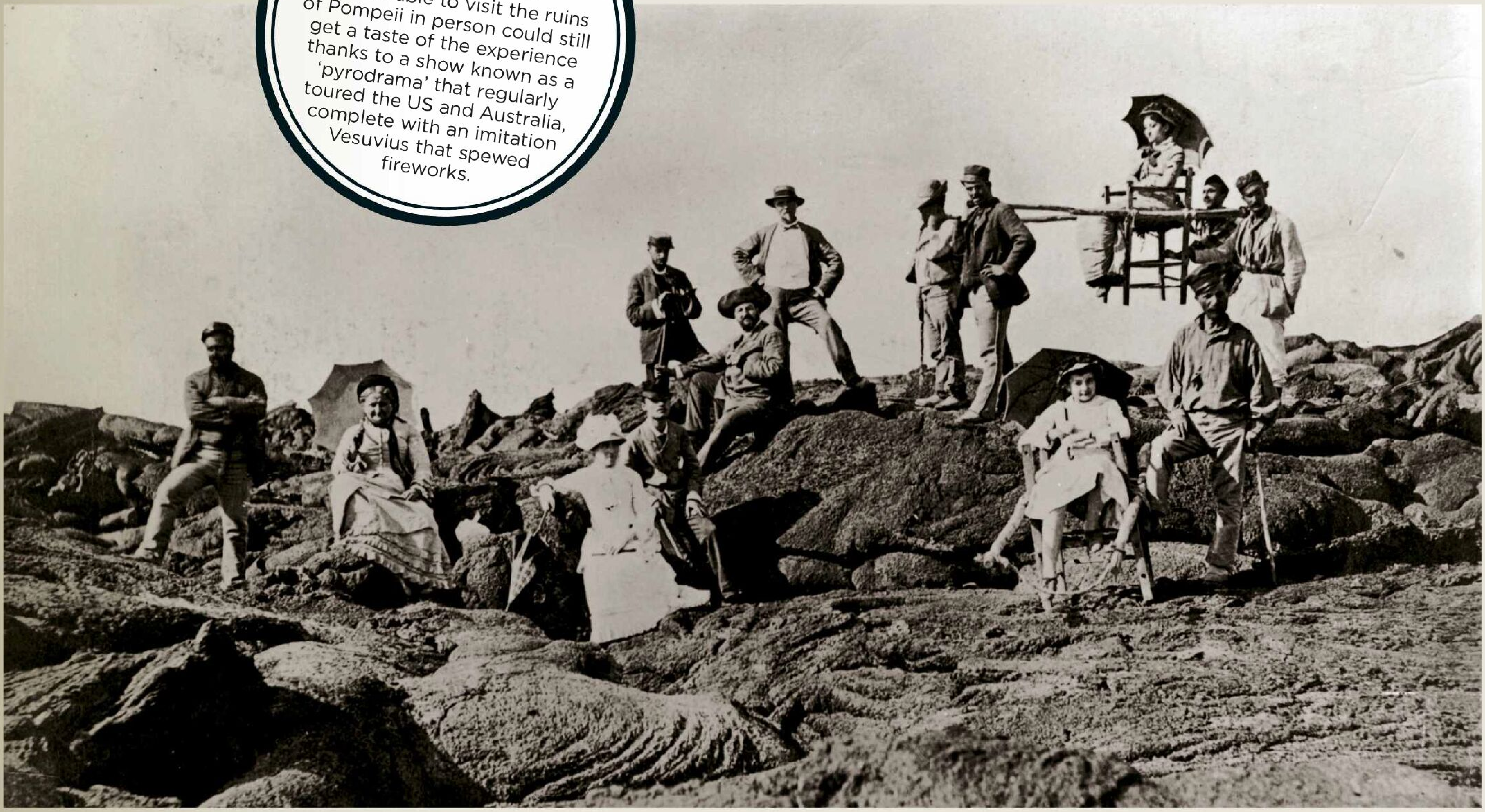
DICING WITH DEATH

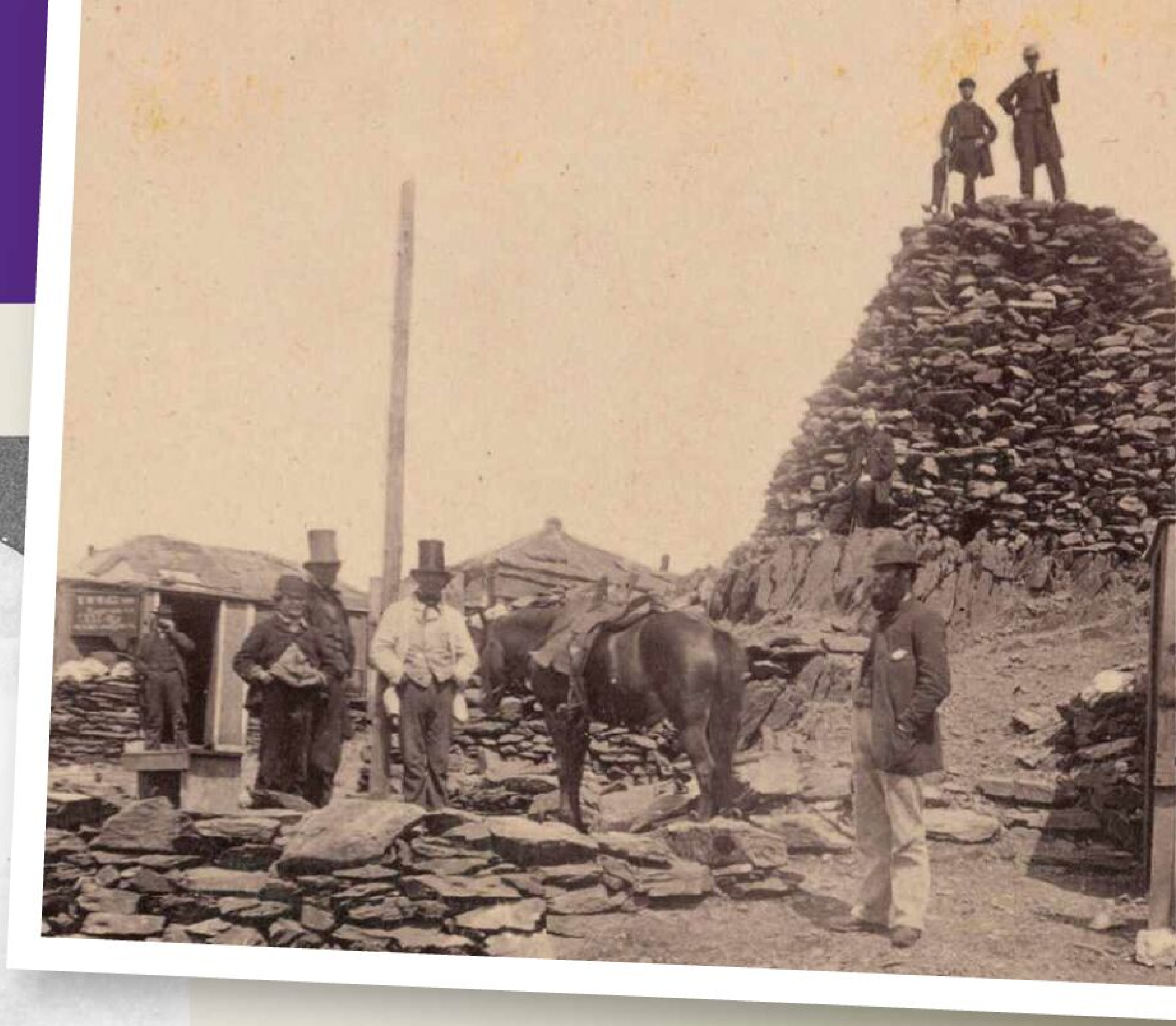
▼ Before the first cable railway system opened on Mount Vesuvius in 1880, the only way to ascend to the summit of the famous volcano was by foot, on horseback, or by sedan-chair, as one, arguably very sensible, tourist has chosen to do in this 19th-century image. Vesuvius erupted eight times between 1822 and 1872, yet tourists still flocked to its crater in their droves.

DID YOU KNOW?

MAGMA OPUS

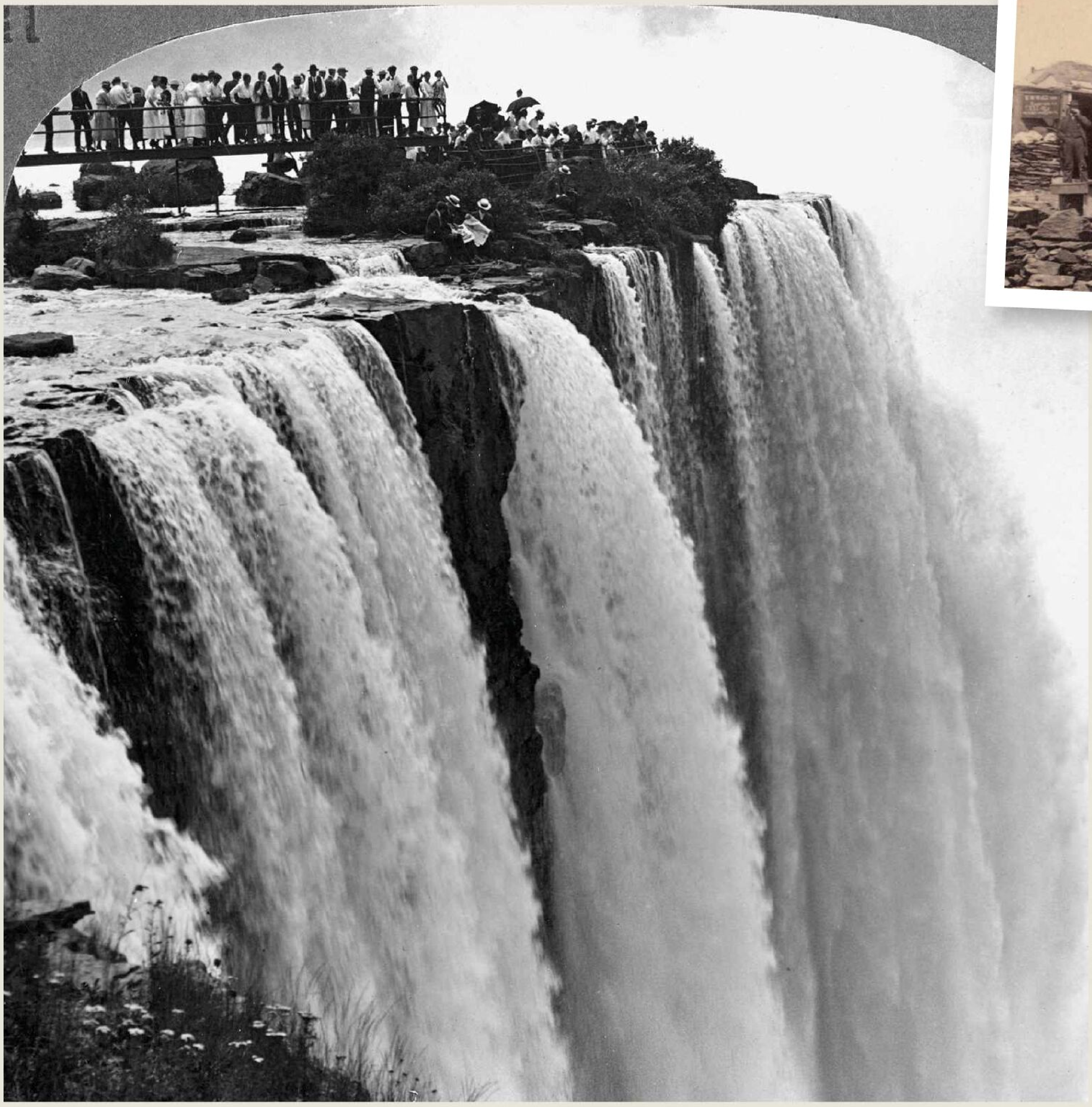
Those unable to visit the ruins of Pompeii in person could still get a taste of the experience thanks to a show known as a 'pyrodrama' that regularly toured the US and Australia, complete with an imitation Vesuvius that spewed fireworks.





HIGH POINT

▲ The challenge of climbing Snowdon, the highest mountain in Wales, appealed to many Victorian travellers. The ascent proved so popular that several huts – seen here in c1860 – were built at the summit to offer shelter and refreshments for climbers as they took in the spectacular views.

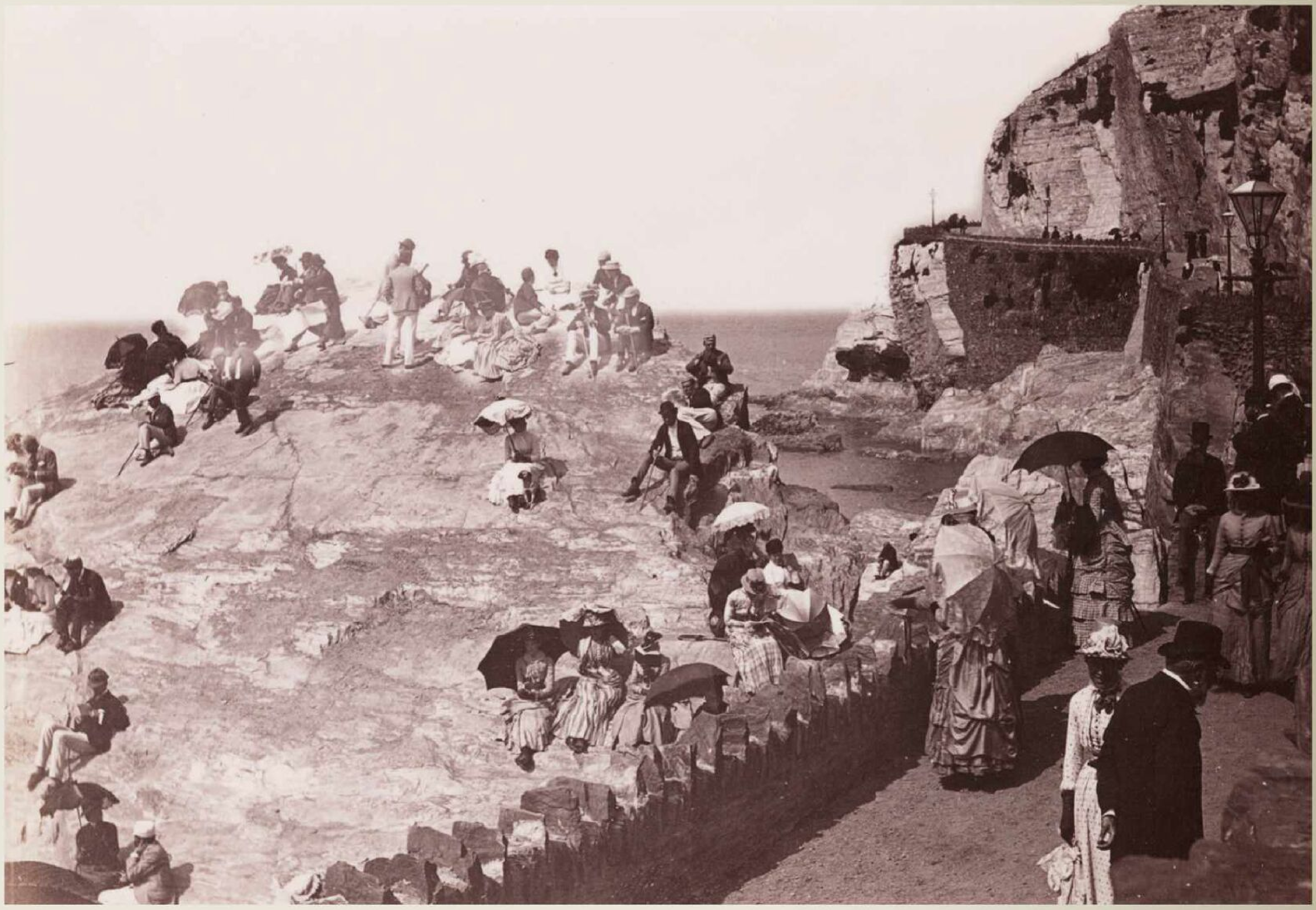


ON THE EDGE

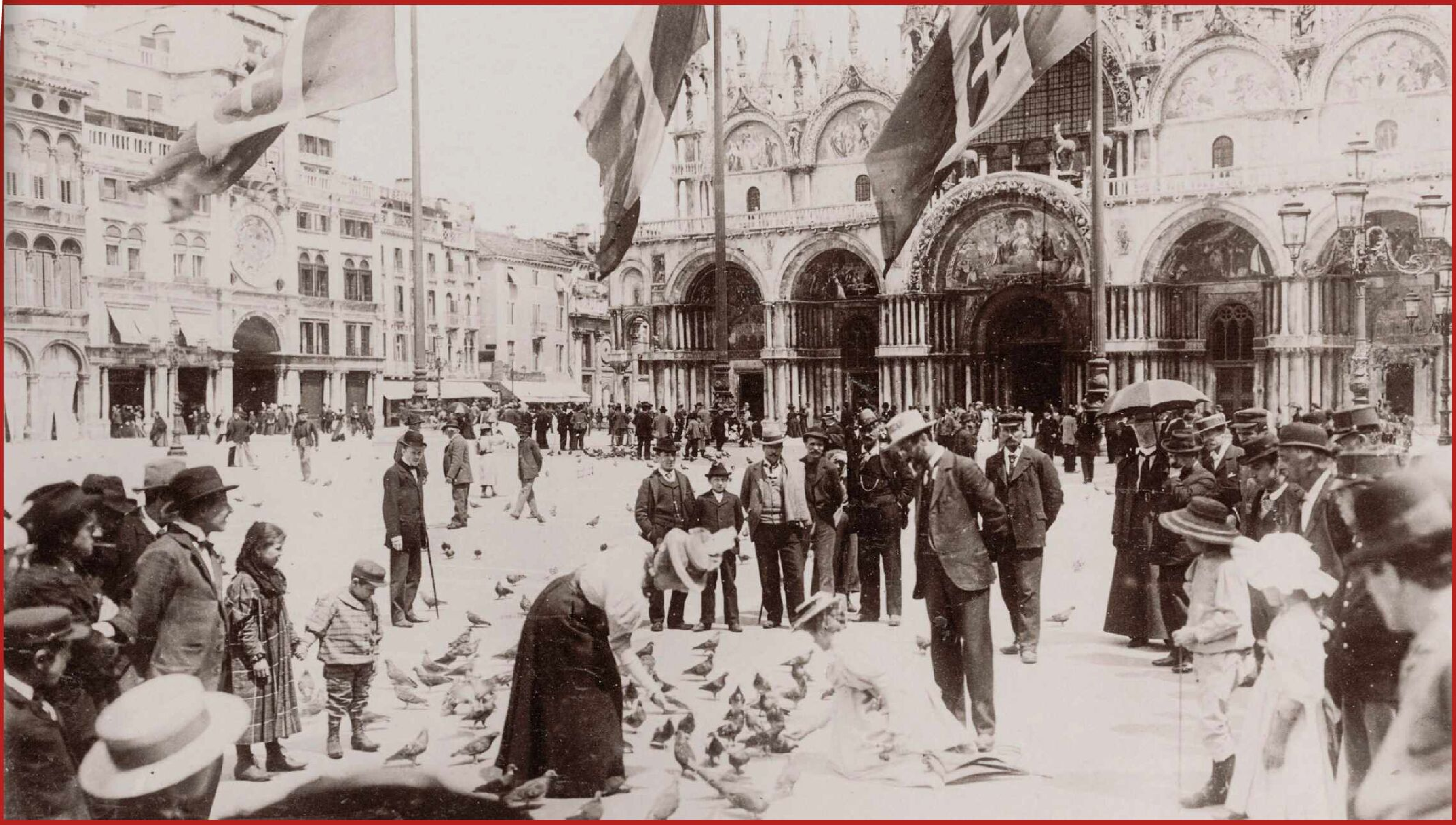
◀ Tourists cluster on the brink of Horseshoe Falls, the largest and most powerful of the three waterfalls known collectively as Niagara Falls. Note the three men perched on rocks perilously near the cascading water, seemingly reading a newspaper or consulting a map.

TAKING IT EASY

▶ Sheltering under parasols and swaddled in full-length clothing, Victorian holidaymakers, pictured in the 1860s/70s, bask on the rocks at Wildersmouth Beach in Ilfracombe, Devon. Access to the beach was via six tunnels, carved through the solid rock in 1823; these gave access to three tidal bathing pools – two set aside for ladies and one for gentlemen.



GETTY IMAGES X3, ALAMY X3

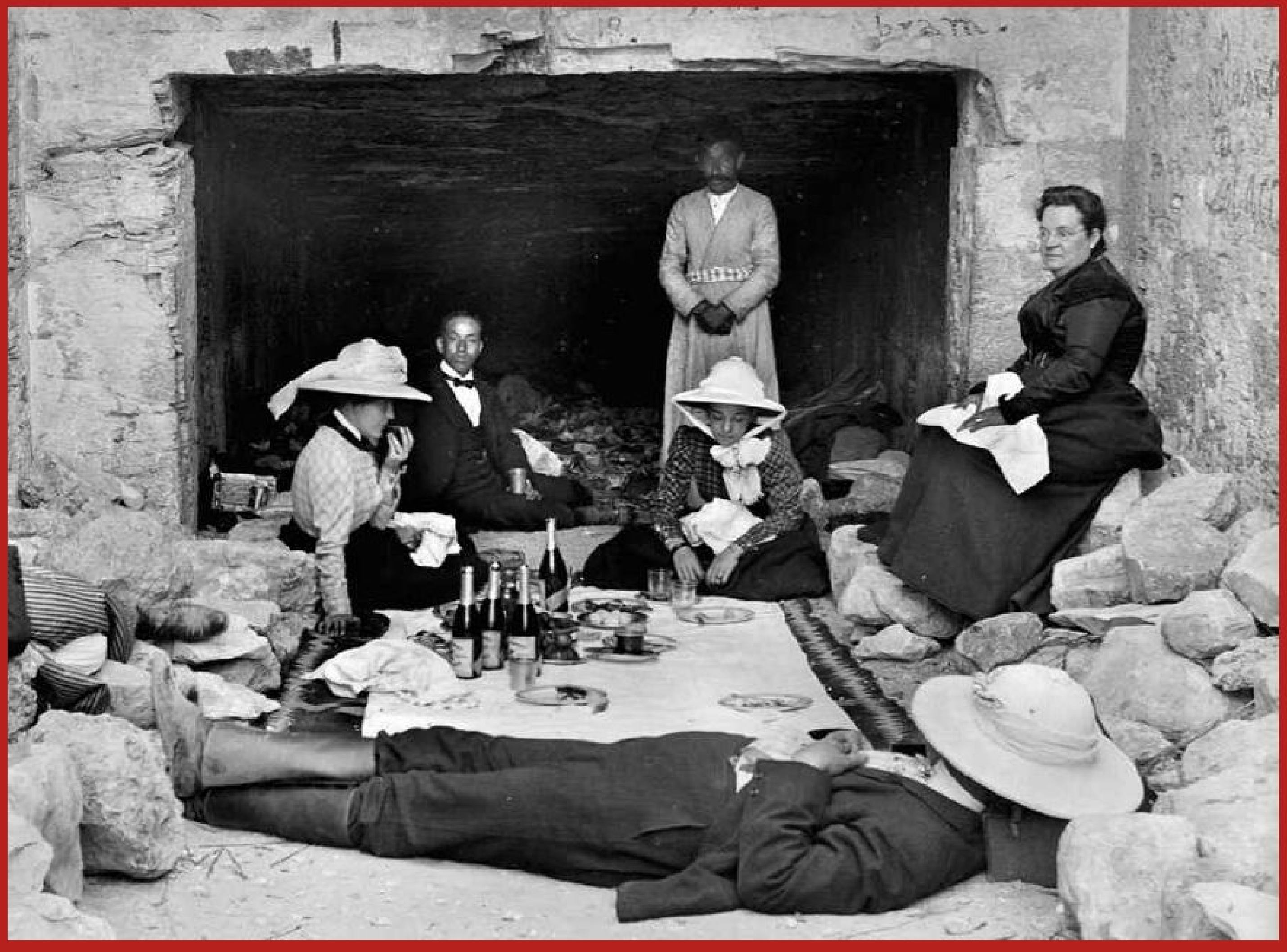


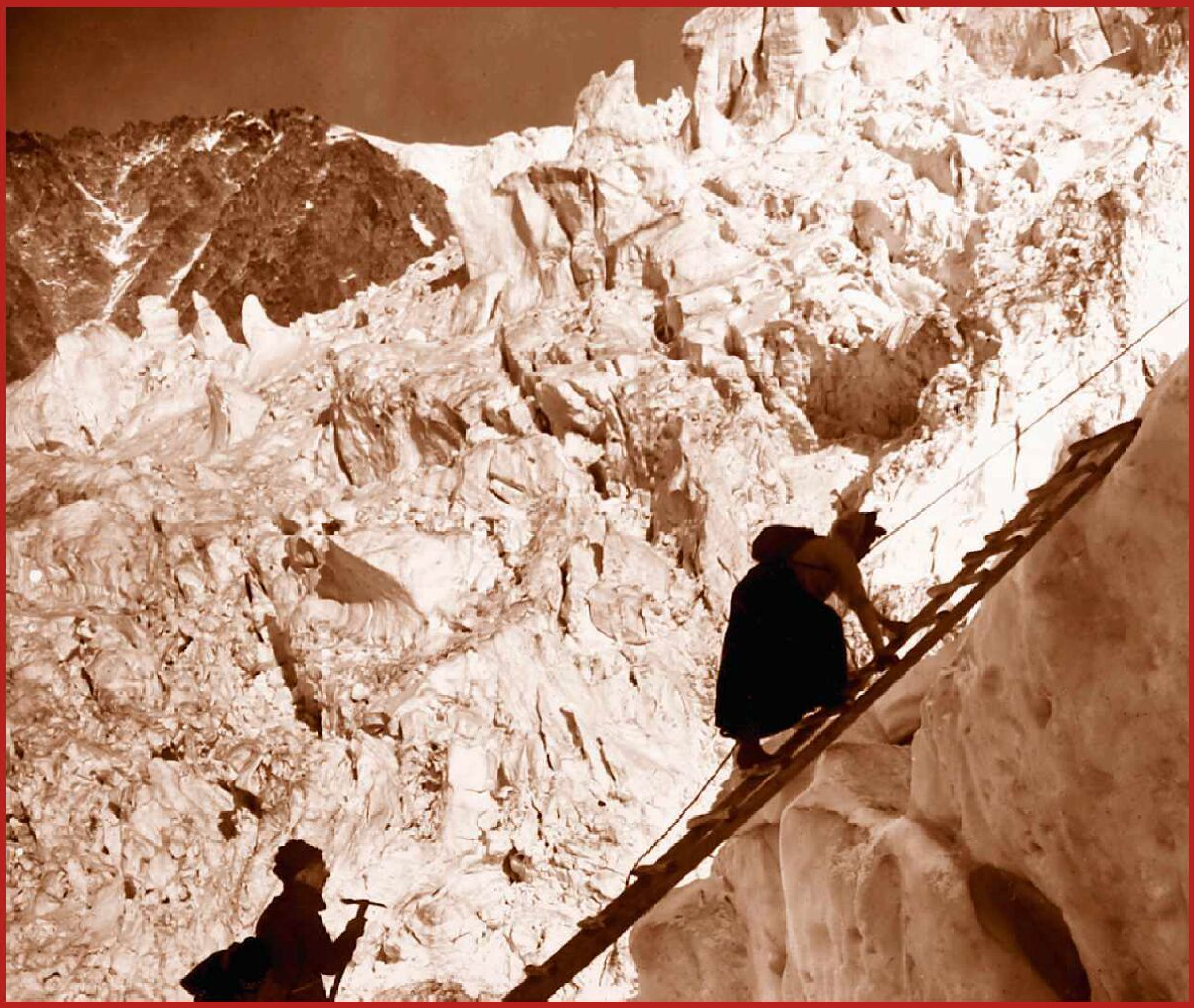
FEEDING THE PIGEONS

▲ Today, feeding the pigeons that regularly descend on St Mark's Square in Venice, Italy, will earn you a fine, but in c1890, when this image was taken, it was a popular pastime with tourists. Italy remained a favourite destination with the Victorians, a hangover of the era of the Grand Tour, when wealthy young men (and some women) would complete their education with a cultural trip around Europe that would often last several years.

PICNIC IN THE PAST

▼ These European tourists, pictured in c1900, are picnicking inside an ancient Egyptian temple, with some rounding off their meal with a post-lunch nap.





SCALING NEW HEIGHTS

▲ Two Victorian women use a ladder to make their way – precariously – across a crevasse in the Alps. Mountain climbing emerged as a new leisure activity in the mid-19th century, with countless men and women making their way to Europe's highest mountain range to take on the extreme physical challenge of ascending its many peaks. ⊙

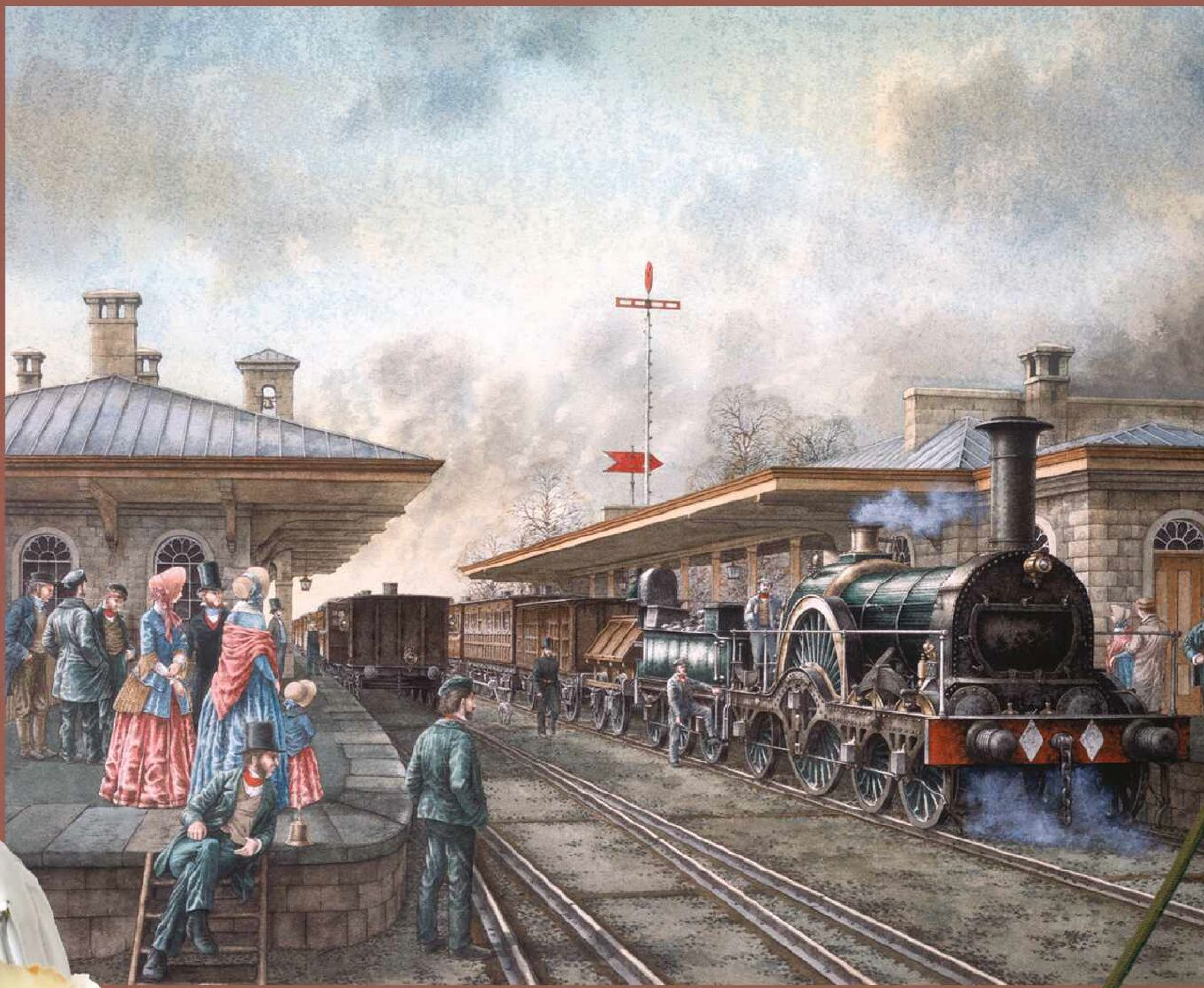
WORDS: CHARLOTTE HODGMAN

SEVEN EPIC FEATS OF IMAGINATION...

The Victorians were an inventive bunch, whose innovations have spread around the world

THE RAILWAY

Steam locomotives were introduced in the late 18th century, but it was the Victorian era that saw the railways used to their full potential. Heavy investment was put into creating new lines, and by the end of Victoria's reign millions of people had become regular rail users. Being able to move goods around the Britain boosted industrialisation, and seaside towns thrived as holidaymakers flocked to their shores. As well as creating a rail network that could transport people across Britain, in 1863 London became the first place in the world to boast an underground railway system, allowing commuters and tourists to enjoy swifter journeys across the capital.



The broad gauge Iron Duke locomotive arrives at Chippenham Station, Wiltshire in 1847

GETTY IMAGES X8

TELECOMS

Keeping in touch with people became much easier during the Victorian era with the development of both the telegraph and the telephone. In 1837, British inventors William Fothergill Cooke and Charles Wheatstone were granted a patent for an electric telegraph that passed communications through wires. Elsewhere, on the other side of the Atlantic, Samuel Morse was developing a communication machine that used dots and dashes. In 1851, a telegraph cable was successfully installed in the English Channel and over the next few decades these cables spanned continents and oceans – Queen Victoria would send the first transatlantic telegraph to US President James Buchanan in 1858. In the US, in 1876, Scottish inventor Alexander Graham Bell patented his telephone, and by the early 20th century wireless telephone sets were being installed in homes across the world.

E
L
C
TEL
BELL
Instruments
Her Majesty the Queen
OSBORNE COTTAGE

This early Bell telephone was used in a demonstration for Queen Victoria

KITCHEN GADGETS

The humble but ever-useful potato peeler and can opener were both created during the 19th century, as was the hand-cranked ice cream maker – a particular favourite. Thanks to advances in mass production during this time, such handy kitchen tools became affordable for many more Victorian households.

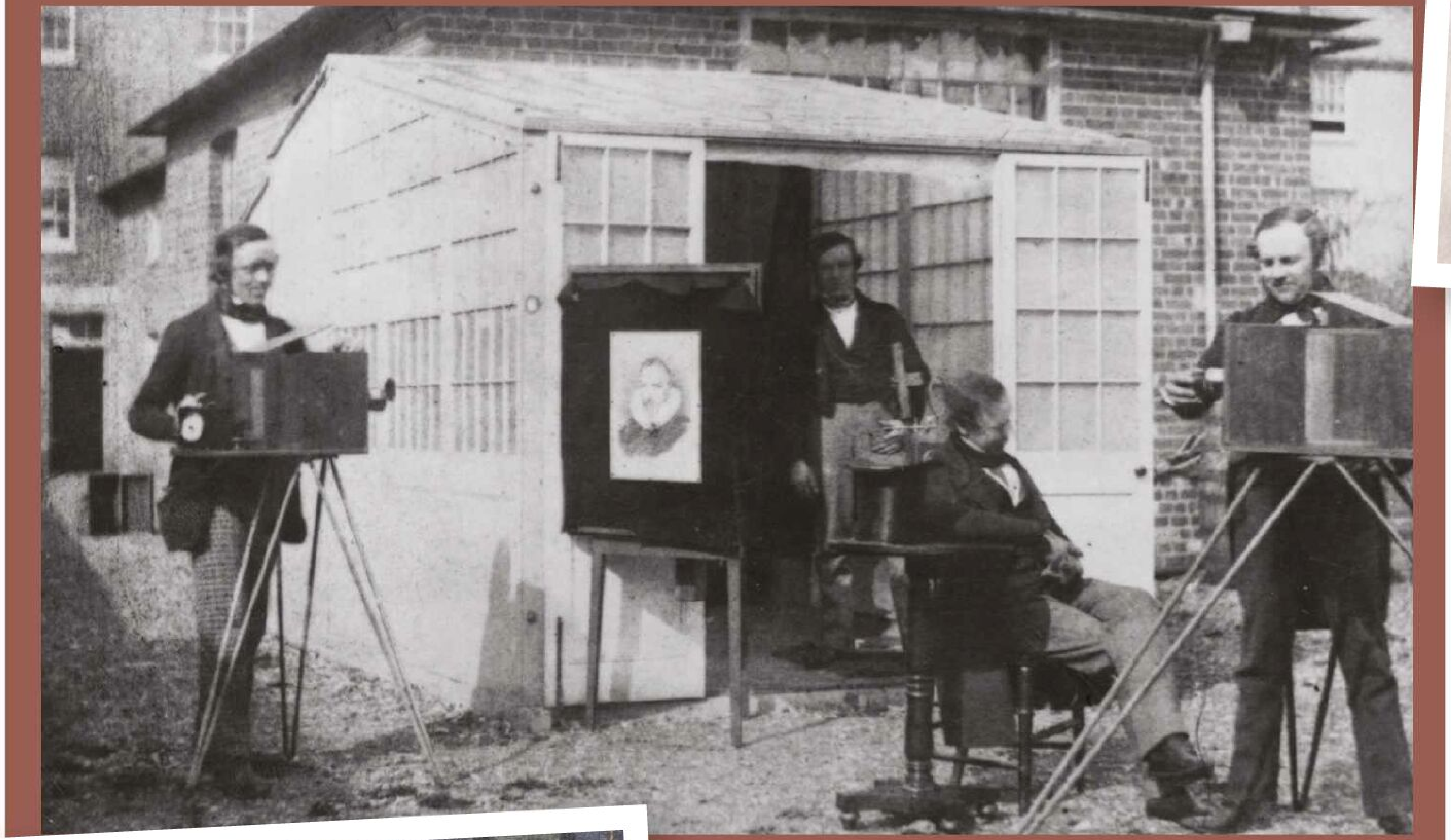
PHOTOGRAPHY

During the 1830s and 40s, the techniques used in photography were developed, with British inventor William Henry Fox Talbot successfully creating a usable negative using a camera by 1840. For the first time, people across Britain could see the face of their queen and the celebrities of the day. By the latter part of Victoria's reign, photography studios were popping up ready to capture family portraits.

DID YOU KNOW?

FULL EXPOSURE

The oldest surviving photograph is believed to have been taken in 1826 by French inventor Nicéphore Niépce with a camera osbcura. Showing his country estate, it's thought that the exposure would have taken a number of hours.

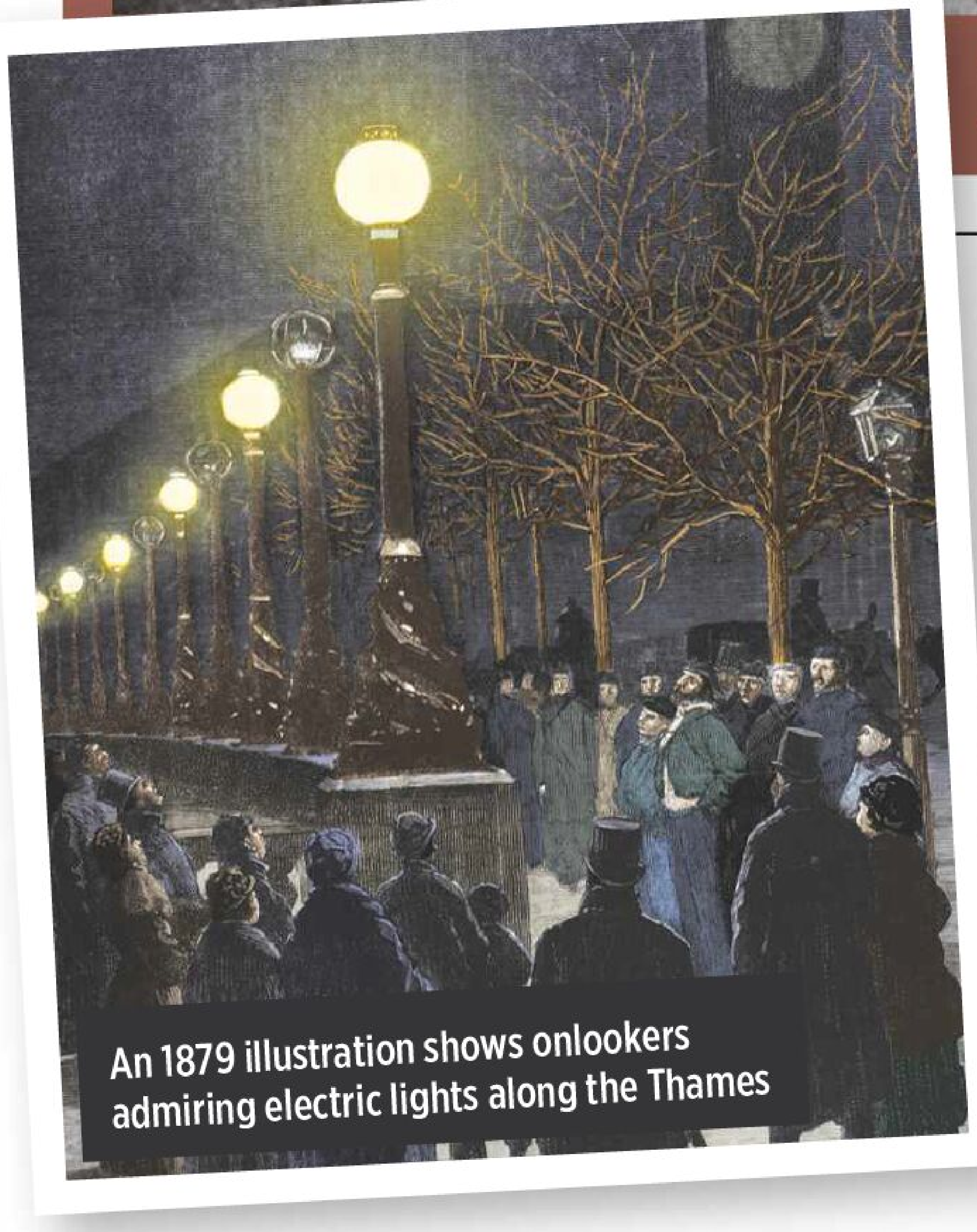


William Henry Fox Talbot (*right*) adjusts the lens on his camera at his Reading photography studio

The penny-farthing had a large wheel with a seat above and a smaller rear wheel – it certainly made a statement

THE BICYCLE

In the early 19th century, a precursor to the bicycle was devised by German inventor Karl Drais – his *Laufmaschine* had no pedals and was pushed along by the rider's feet. The penny-farthing and its mismatched wheels became popular from the 1870s, but it wasn't until 1885, when John Kemp Starley created his safety bicycle, that we see a design that resembles the modern bike. With a chain and rear-wheel drive it was far more stable than its predecessors.



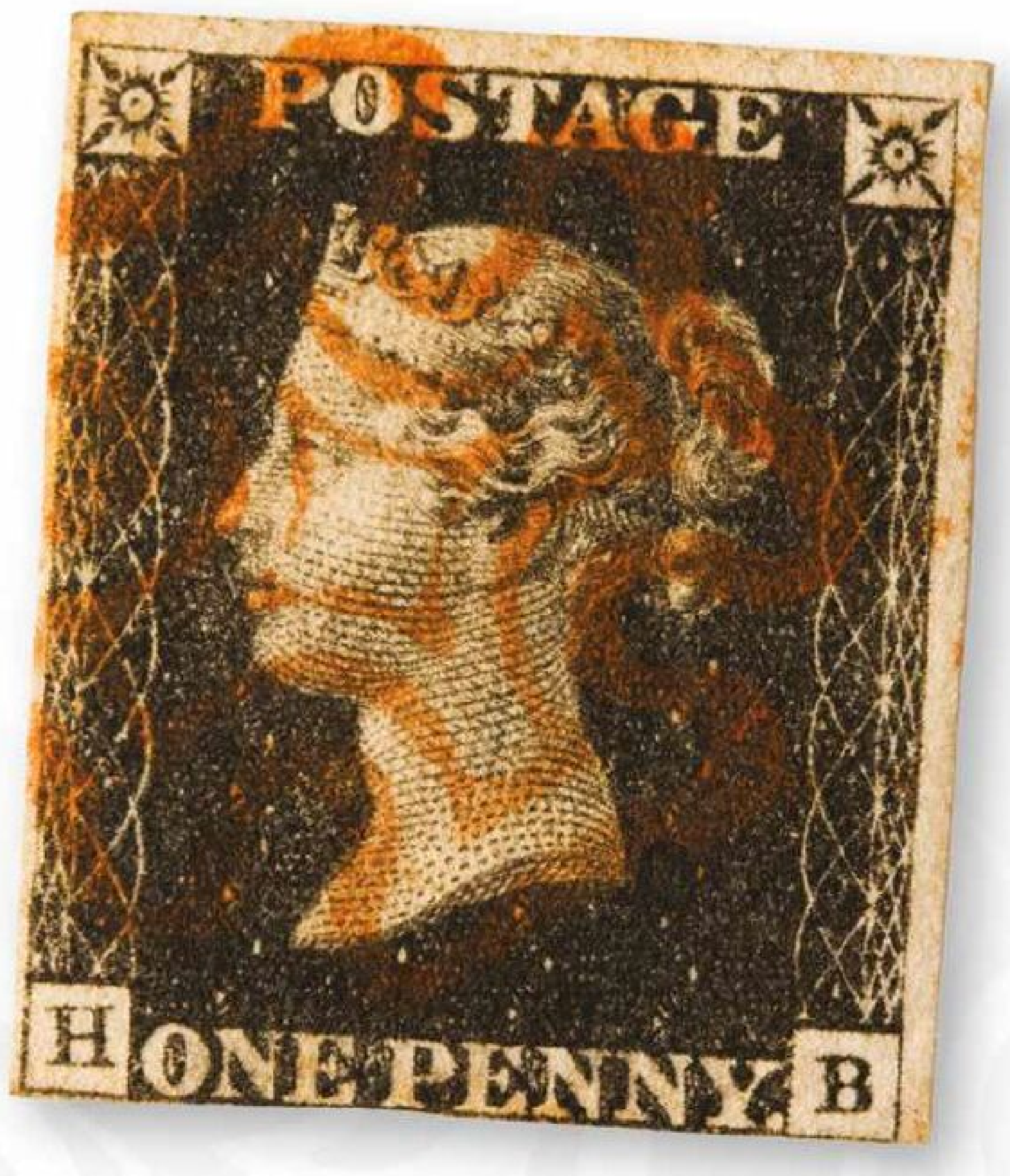
An 1879 illustration shows onlookers admiring electric lights along the Thames

ELECTRIC LIGHTING

When Victoria became queen, candles had already been replaced by gas lighting. But gas wasn't ideal, as it could cause headaches as well as explosions. Electric lighting was developed in the 1870s by British inventor Joseph Swan, and 1879 saw a Newcastle street become the first in the world to be lit by electric lights. It wouldn't be until after World War I, though, that most homes were electrically illuminated.

THE STAMP

Before the invention of the stamp in 1840, the British postal system was unreliable, and recipients had to pay to receive a letter – if they didn't pay, they didn't receive their post. The first adhesive stamp, the Penny Black, featured a picture of Queen Victoria, and meant that the sender had prepaid for the letter. At just a penny, the stamp revolutionised the postal system and made it more widely affordable to send post around Britain.



The famous Penny Black stamp. Post boxes were also introduced as part of postal reforms

...AND ONE EPIC FAIL

GREY SQUIRRELS

Not every Victorian innovation was a success and our 19th-century forebears are responsible for several bad ideas, including the introduction of the American grey squirrel. The first verifiable record of a pair of greys being released in the UK is in Cheshire, in 1876. Before long, Britain's smaller, native red squirrels were overrun and can now only be found on the Isle of Wight, Brownsea Island, Anglesey, a few pine forests in the north of England and the Scottish Highlands. ⊙

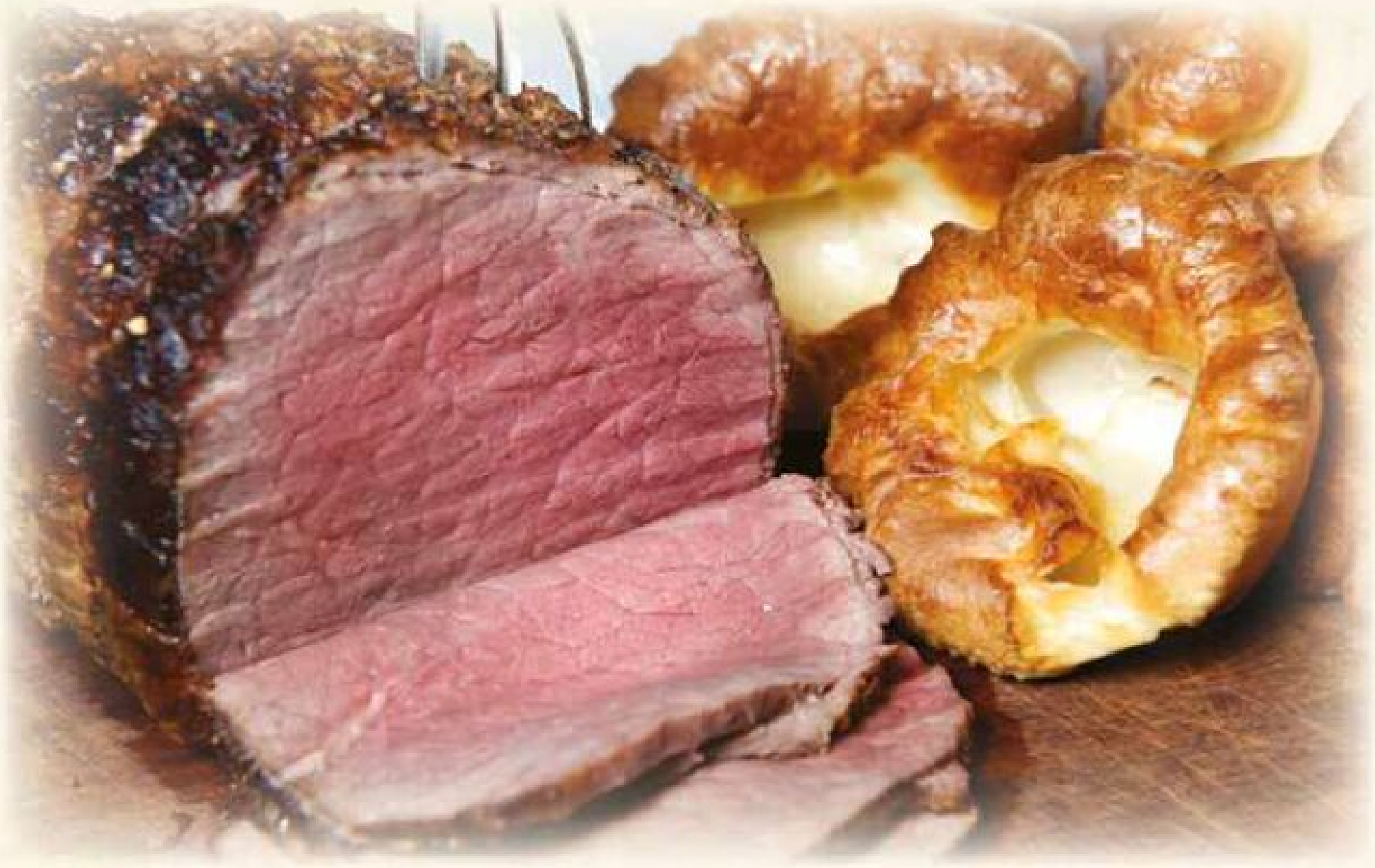
WORDS: EMMA SLATTERY WILLIAMS

VICTORIAN VITTLES

Some Victorian fare is still popular today, but there are other dishes that remain very much of their time

MARROW TOAST

Bone marrow is the spongy tissue found inside some bones – might not sound appetising, but the Victorians loved it, especially when spread on toast. Even Queen Victoria herself is said to have been a fan, according to former royal chef Charles Elme Francatelli in his book *The Cook's Guide, and Housekeeper's & Butler's Assistant*.



A SUNDAY ROAST

We have the Victorians to thank for this quintessential British trend of roast meat, Yorkshire puddings and all the trimmings on a Sunday. Meat was not a luxury that most could afford to eat daily, so Sunday became the day to indulge. The joint was put in the oven in the morning and would be ready by the time the family returned from church.

CURRY

Indian food is often ranked as Britain's favourite cuisine, and we have Queen Victoria to thank for it. The East India Company brought curry to Britain and the first curry houses opened in the early 1800s – although not all approved of this 'foreign' food. The Queen took a liking to it, though, with chicken curry and daal being particular favourites.

GRUEL

It's hard to imagine anyone enjoying this enough to ask for more, even if you were Oliver Twist. This plain, watery thin porridge, which would have been eaten by the poorest Victorians, was made of ground cereals such as oats boiled with milk or water.

TREACLE TART

The Victorians loved sweet treats, and this pudding was both inexpensive and excellent at sating sugar cravings. Its main ingredient is golden syrup, or light treacle, a by-product of the sugar cane refining process that was first sold off as pig food. The only other ingredients needed for this simple tart are shortcrust pastry base, breadcrumbs and lemon juice.

JELLIED EELS

Originating in the East End of London in the 18th century, this fishy delicacy – found in eel, pie and mash shops as well as market stalls – was a firm Victorian favourite. The eels would be boiled in stock and allowed to set into a jelly before being eaten cold. ⊙

WORDS: EMMA SLATTERY WILLIAMS

ALAMY X1, GETTY IMAGES X7

A VICTORIAN CHRISTMAS

We have the Victorians to thank for many of our favourite Christmas traditions – as well as a popular ghost story

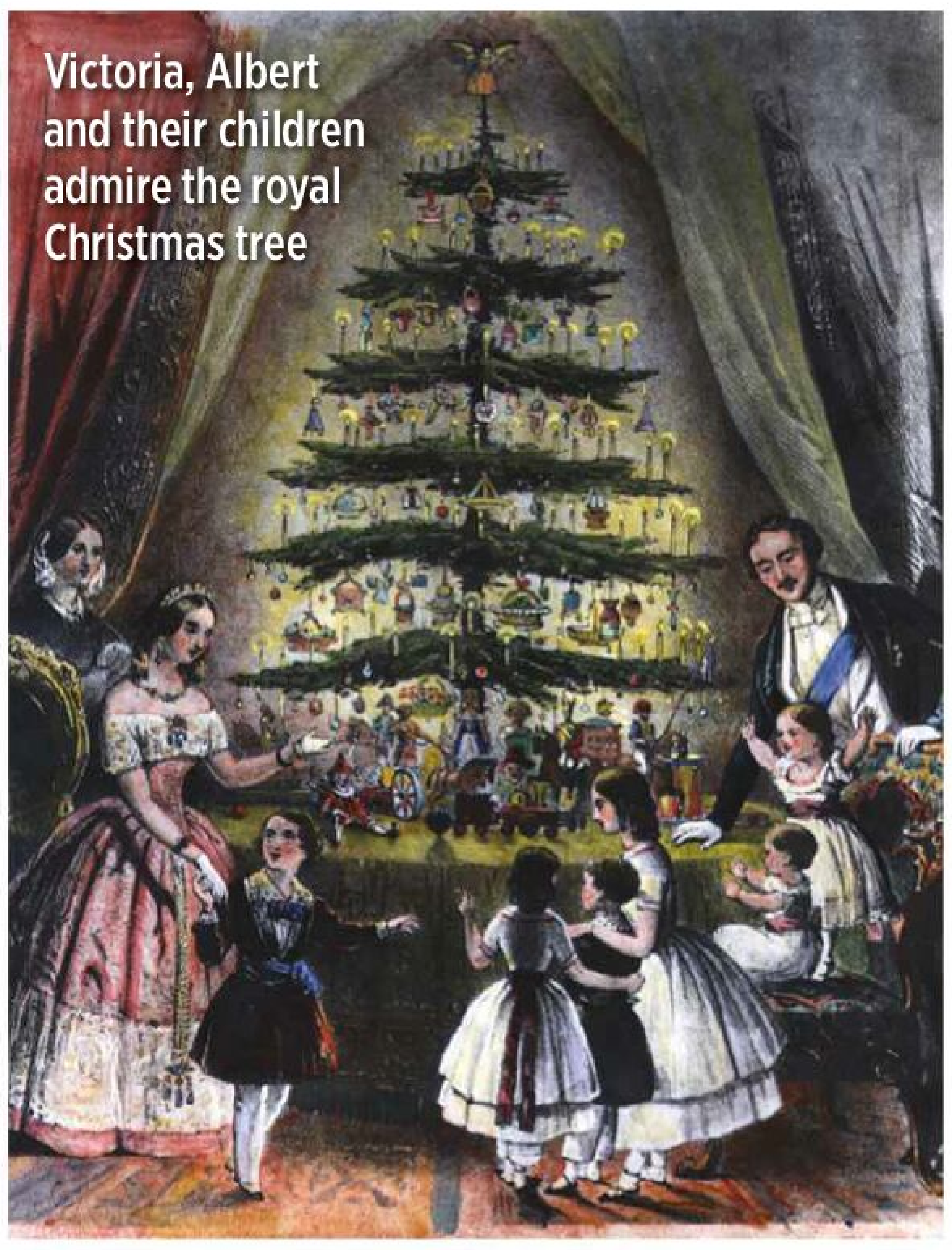
The Victorians may not have invented Christmas, but they certainly introduced and revived many of the traditional elements we celebrate during the festive season today. Before the Victorian period, Christmas celebrations were muted affairs, with many of the working classes limited to just one day off. When Queen Victoria married Albert, however, the family became the heart of the Christmas period again, and the royals led by example.

Many traditions celebrated in Germany were popularised by Prince Albert, including the Christmas tree. After *The Illustrated London News* published an image of the royal family making merry around a tree, everyone wanted one, and so the tradition was born. Gift-giving had traditionally been observed at New Year but, as the importance of Christmas increased, gifts began to be given on Christmas Day, with shop-bought presents starting to replace homemade gifts.

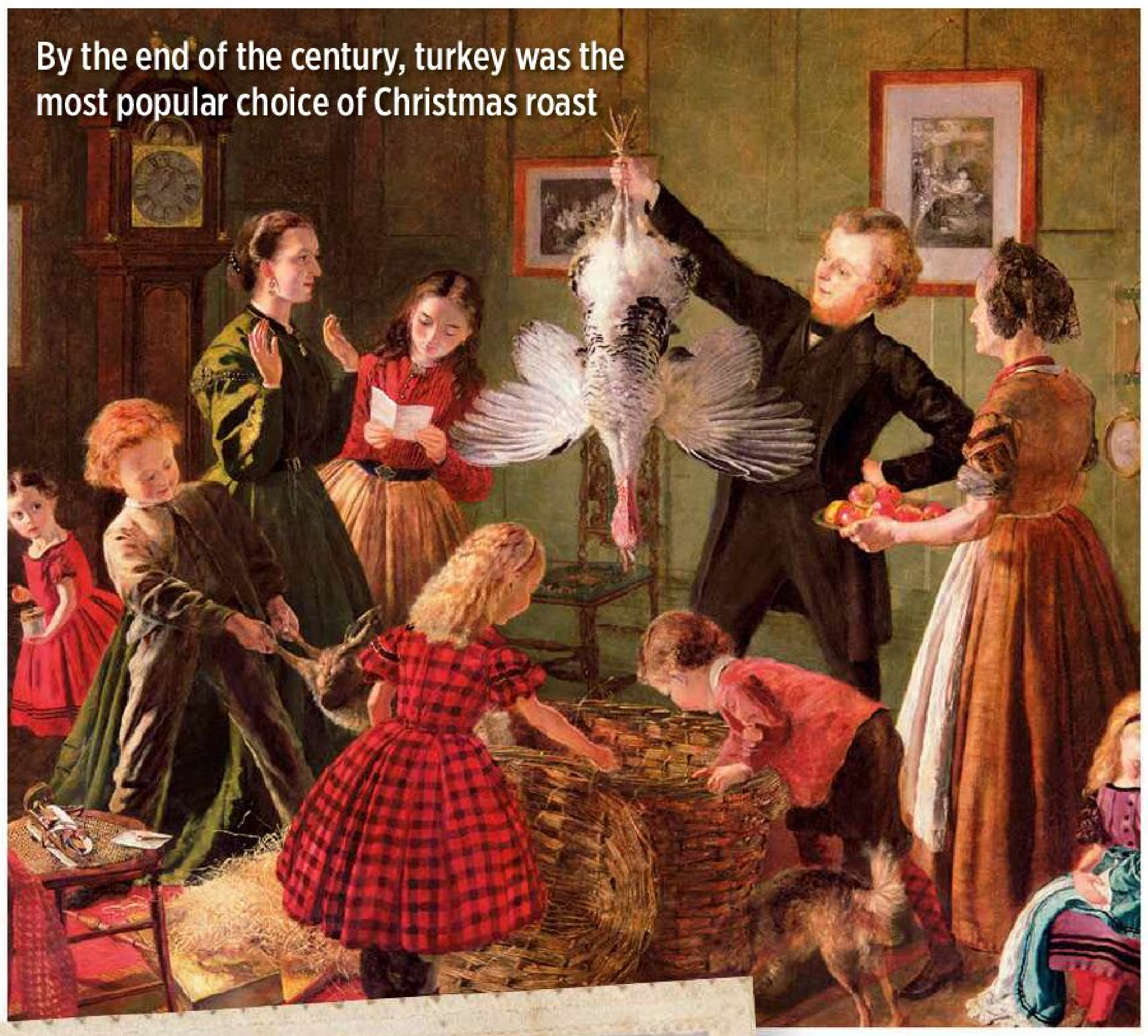
As the focus of Christmas began to shift to family and children, the role played by Father Christmas also changed. The jolly fellow had previously been associated with adult celebrations, but now he became the bringer of gifts and added a magical element to the holiday. The singing of Christmas carols was also revived and the custom of kissing under the mistletoe – which possibly had pagan roots – became an acceptable way of stealing a Christmas kiss. Meanwhile, the reform of the postal system and introduction of the Penny Black stamp in 1840 – making it easier to keep in touch with friends and relations – helped launch the tradition of the Christmas card, the first of which appeared in 1843.

Roast turkey remains the customary fare for Christmas lunch and we can thank the Victorians for this, too. In the early 19th century, turkeys would have been too expensive for the majority of households to afford. But the development of the railway made them more accessible and affordable, and soon they had become the star attraction at Christmas dinner tables. The inclusion of a roast turkey at the end of Charles Dickens's *A Christmas Carol*, also helped cement this meaty tradition.

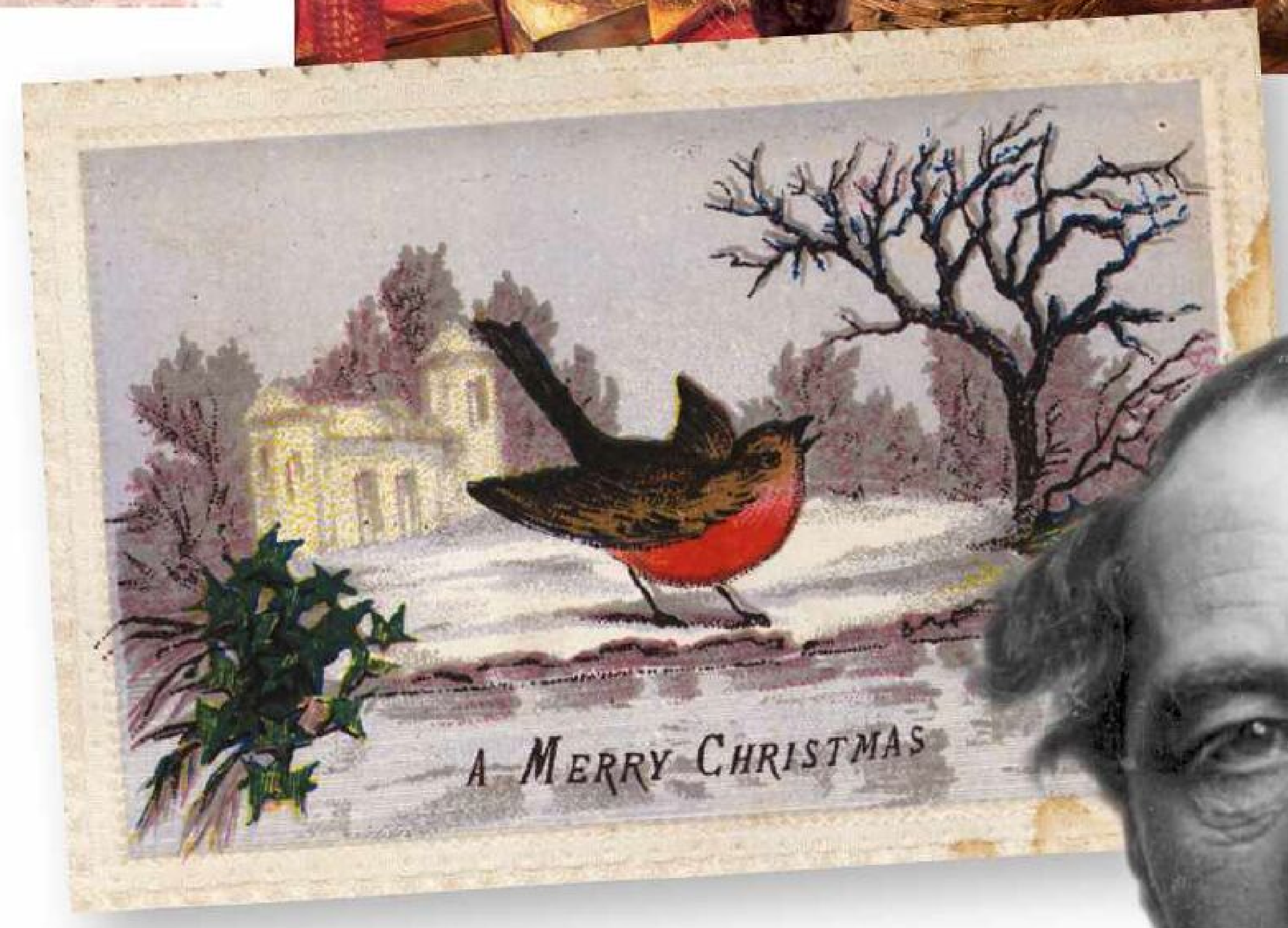
WORDS: EMMA SLATTERY WILLIAMS



Victoria, Albert and their children admire the royal Christmas tree



By the end of the century, turkey was the most popular choice of Christmas roast

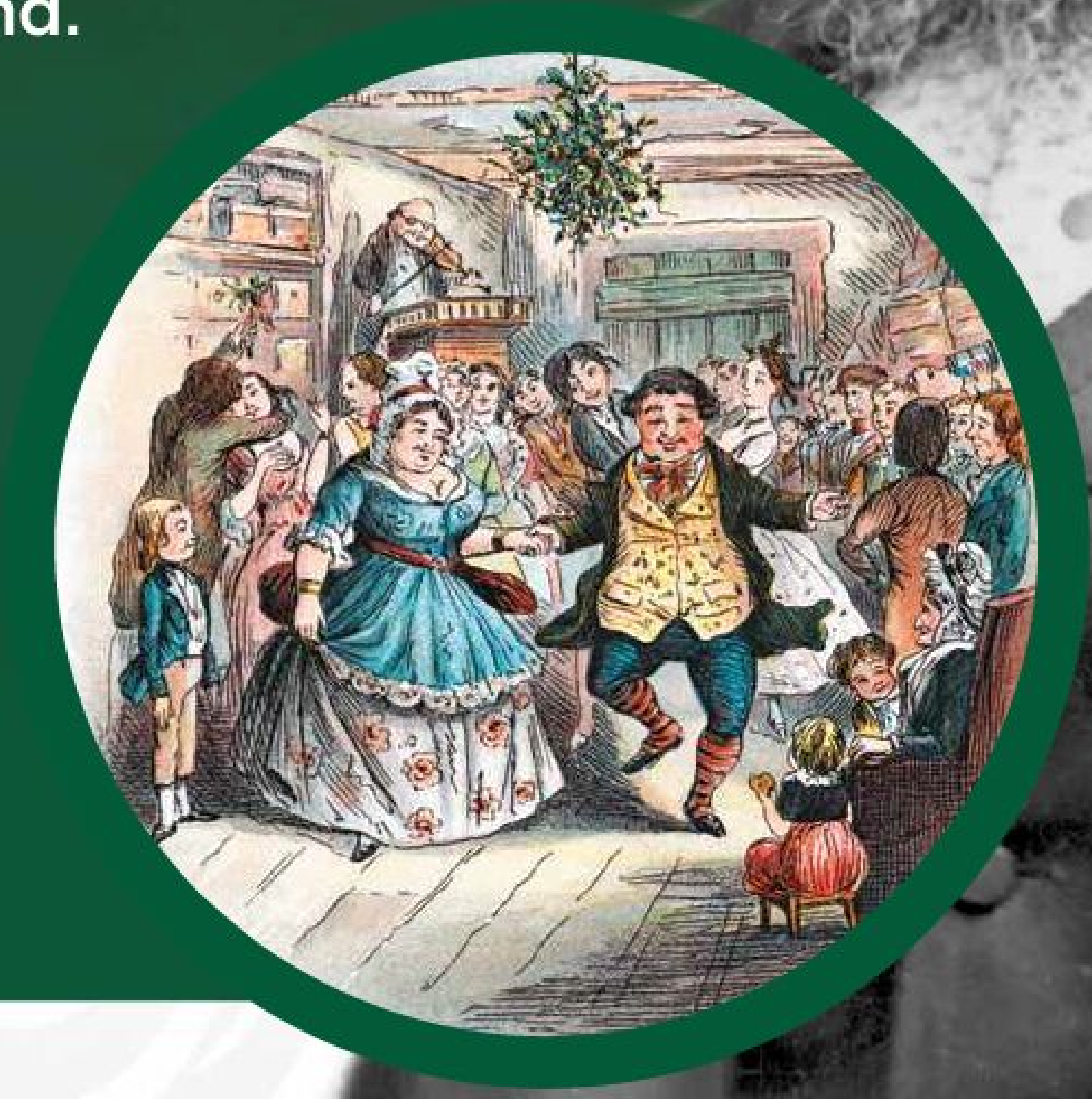


The Christmas card revolution began with reforms to the postal service

CHARLES DICKENS

How a spooky story saved Christmas

When we think about the Victorian Christmas, often it's the fictional scenes from Charles Dickens's *A Christmas Carol* that spring to mind. Published in 1843, this spooky ghost story was written after Dickens (*right*) had toured northern England and seen the plight of many of Britain's poor. It became one of his best-known works, and had the unexpected side-effect of reinvigorating the festive season and creating a sense of nostalgia for the celebrations of years gone by. It was so popular that its first edition sold out within a few days.

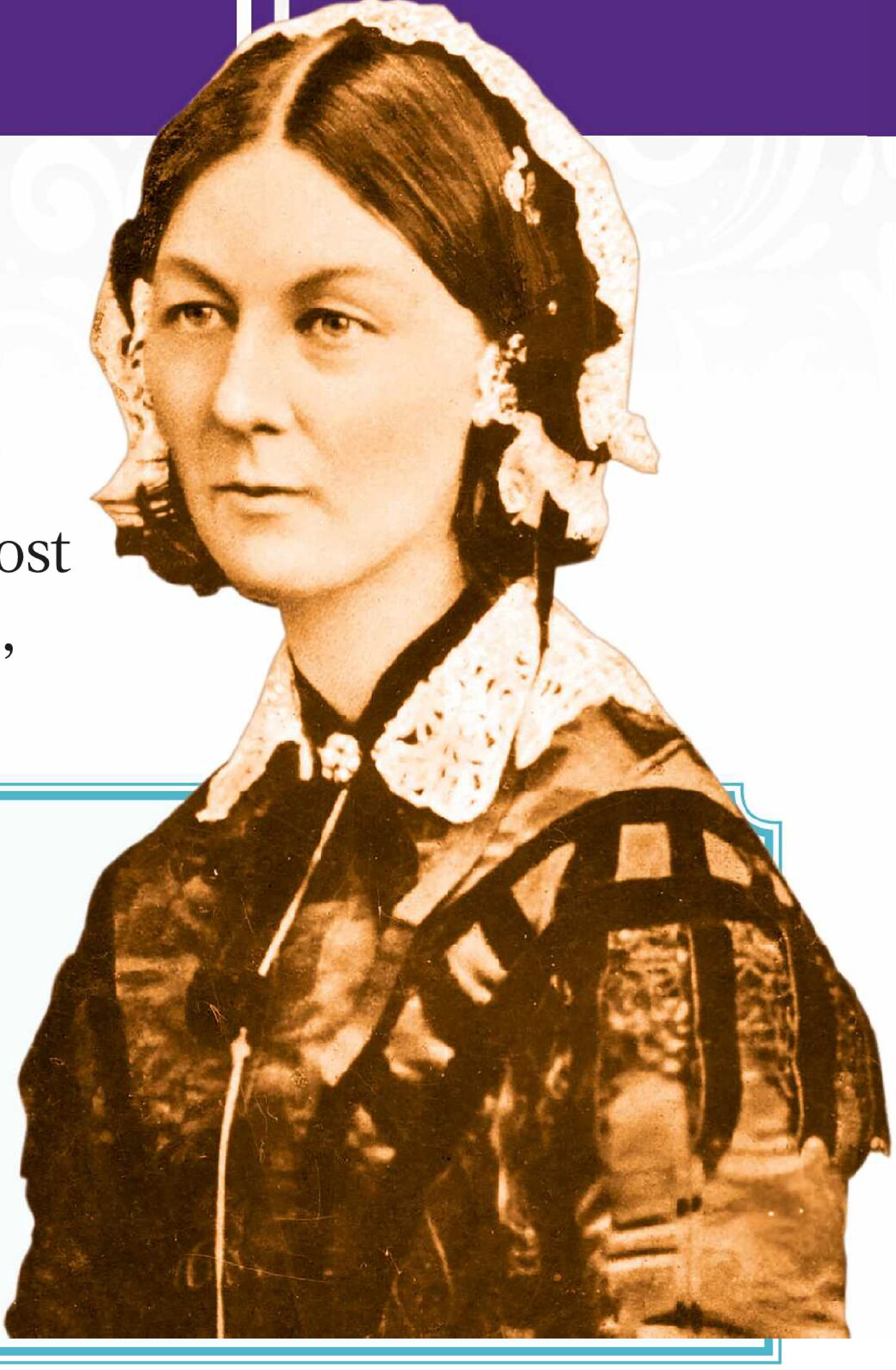


The joyful Mr Fezziwig (*below*) was a foil to the miserly Scrooge in *A Christmas Carol*

BRIDGEMAN ART LIBRARY X1, GETTY IMAGES X6

FAMOUS VICTORIANS

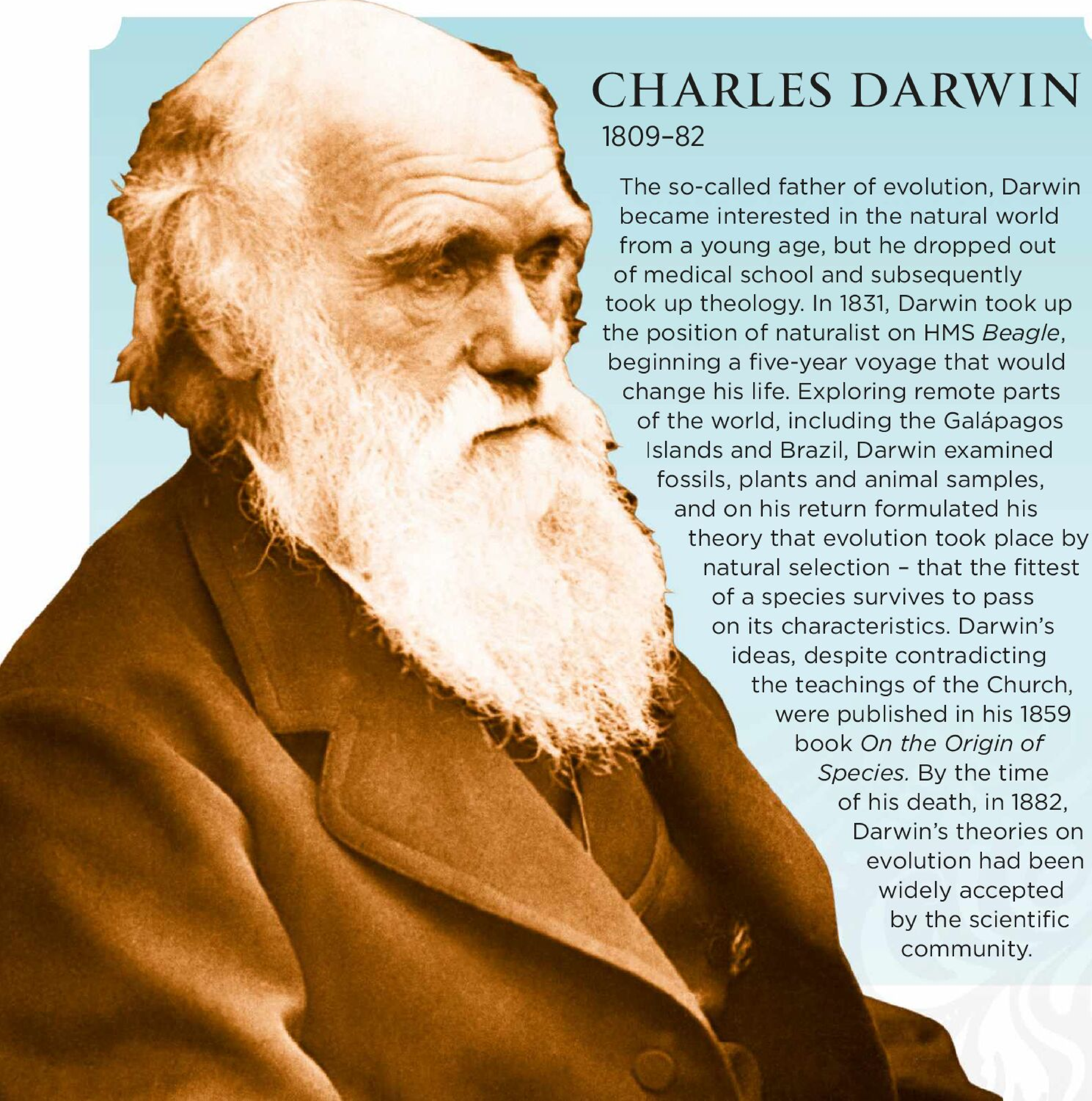
The Victorian era gave us some of the most famous faces from the worlds of science, literature and beyond



FLORENCE NIGHTINGALE

1820–1910

The Lady with the Lamp transformed the nursing profession, making it a respectable role for women and saving countless lives by implementing simple changes. During the Crimean War (1853-6), Nightingale was sent to the field hospitals in modern-day Turkey. There, amongst other things, she introduced regular handwashing and the provision of clean clothes for patients, which saw rates of infection drop, as well promoting a high level of dignity and care to the soldiers she was looking after. Nightingale's reports on patient living conditions prompted a Royal Commission into the health of the British Army. In 1860, she opened the world's first secular nursing school in London and the advice in her book *Notes on Nursing* is still used as a practical guide to hygiene and caring.



CHARLES DARWIN

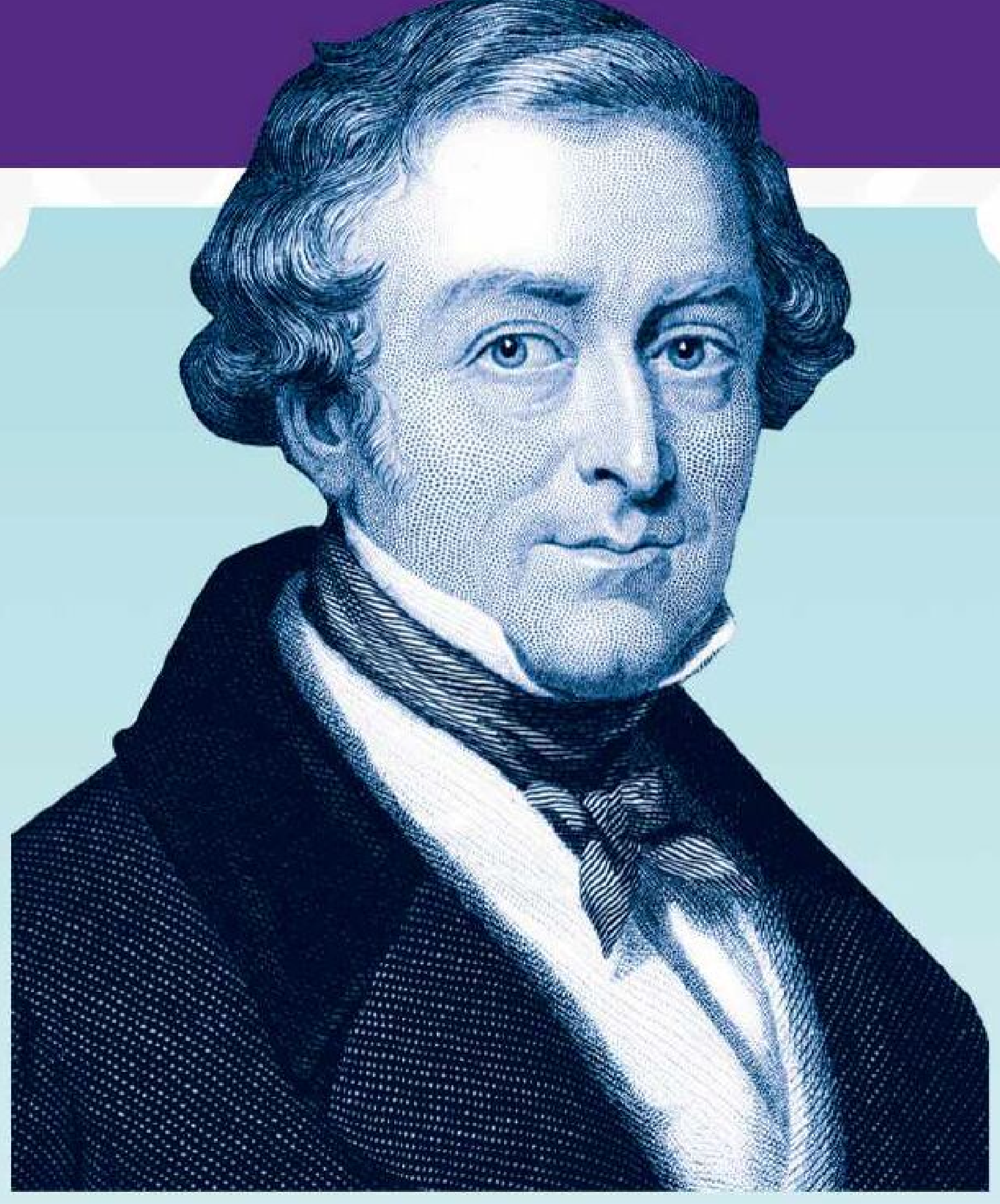
1809–82

The so-called father of evolution, Darwin became interested in the natural world from a young age, but he dropped out of medical school and subsequently took up theology. In 1831, Darwin took up the position of naturalist on HMS *Beagle*, beginning a five-year voyage that would change his life. Exploring remote parts of the world, including the Galápagos Islands and Brazil, Darwin examined fossils, plants and animal samples, and on his return formulated his theory that evolution took place by natural selection – that the fittest of a species survives to pass on its characteristics. Darwin's ideas, despite contradicting the teachings of the Church, were published in his 1859 book *On the Origin of Species*. By the time of his death, in 1882, Darwin's theories on evolution had been widely accepted by the scientific community.

ISAMBARD KINGDOM BRUNEL

1806–59

Engineer Isambard Kingdom Brunel was the mastermind behind some of Victorian Britain's greatest engineering feats – from Bristol's Clifton Suspension Bridge and the SS *Great Britain* to an entire railway network. Brunel's first major engineering achievement was helping his father, also an engineer, build the Thames Tunnel – the first tunnel to be built under a navigable river. In 1833, Brunel became Chief Engineer for Great Western Railway and built a network of tunnels, viaducts and bridges on the route between London and Bristol.



SIR ROBERT PEEL

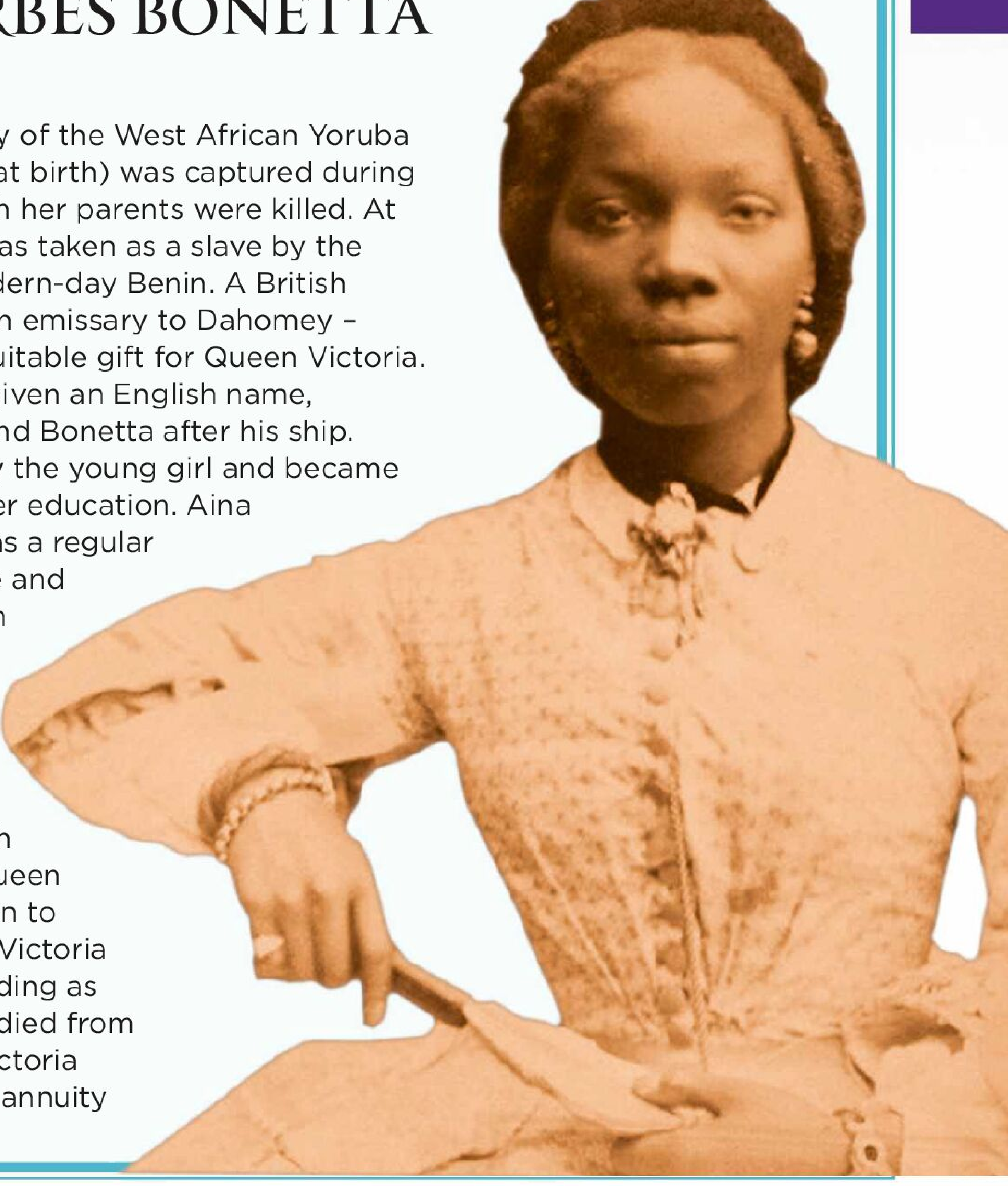
1788–1850

Serving twice as British Prime Minister, Robert Peel brought in many reforms that changed Britain for the better. As Home Secretary he helped promote Catholic Emancipation, while as Prime Minister he improved conditions for the working classes – especially those working in mines and factories. Peel is also seen as the father of modern British policing with his introduction of a professional and full-time police force for London – a reformed style of policing that quickly spread across the country (*see p53*).

SARAH FORBES BONETTA

1843–80

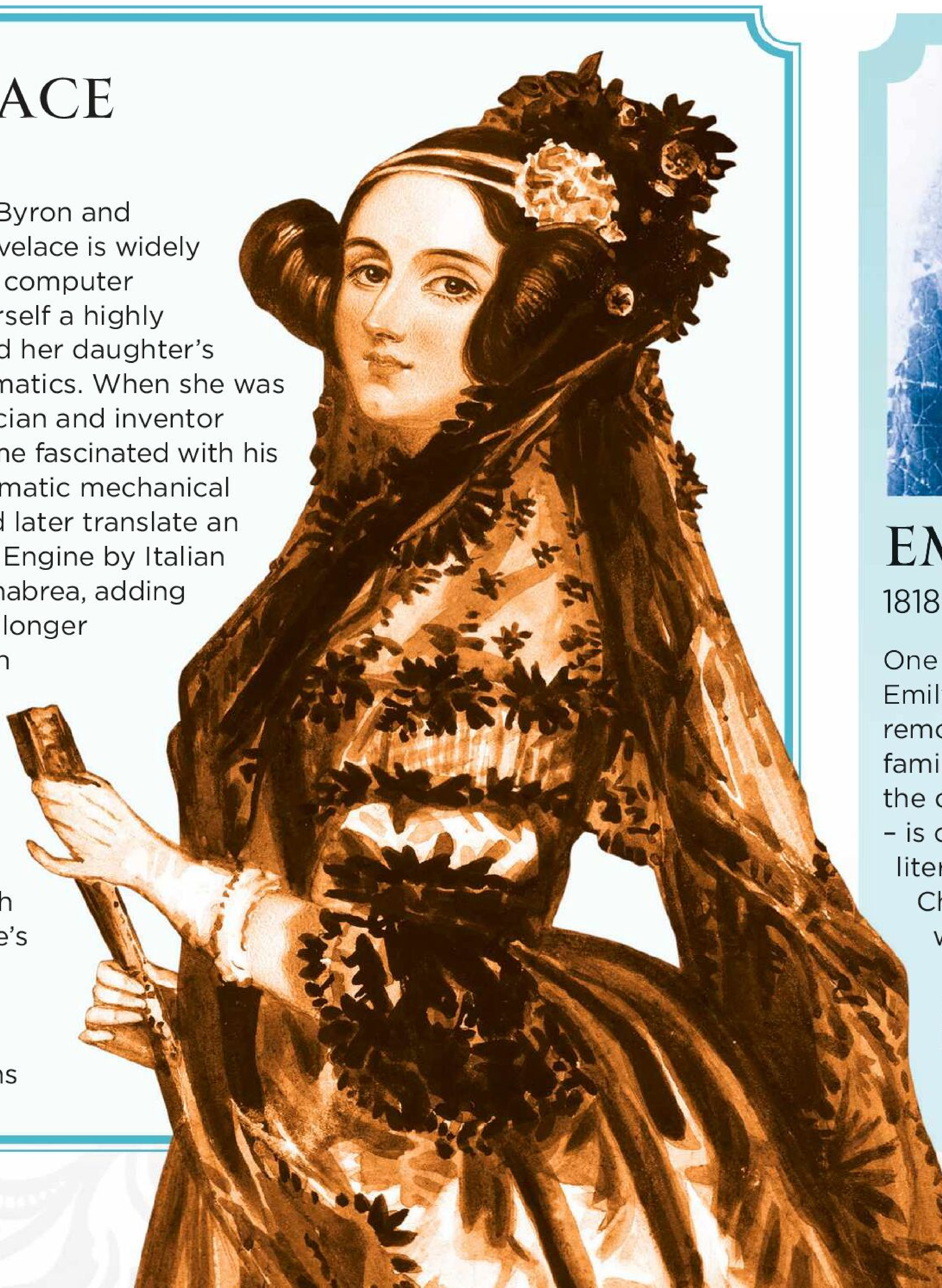
Born into the royal family of the West African Yoruba people, Aina (her name at birth) was captured during a slave-hunt war in which her parents were killed. At just five years old, she was taken as a slave by the king of Dahomey, in modern-day Benin. A British Navy captain – sent as an emissary to Dahomey – was given the girl as a suitable gift for Queen Victoria. Aina was baptised and given an English name, Forbes for the captain and Bonetta after his ship. Victoria was charmed by the young girl and became her protector, funding her education. Aina – now named Sarah – was a regular visitor to Windsor Castle and impressed the court with her academic abilities. At 19 she married a Yoruba businessman and philanthropist; they returned to Africa and raised a family. Sarah kept in touch with the queen and was given permission to name her first daughter Victoria – with the monarch standing as godmother. After Sarah died from tuberculosis, aged 37, Victoria continued to provide an annuity for the child.

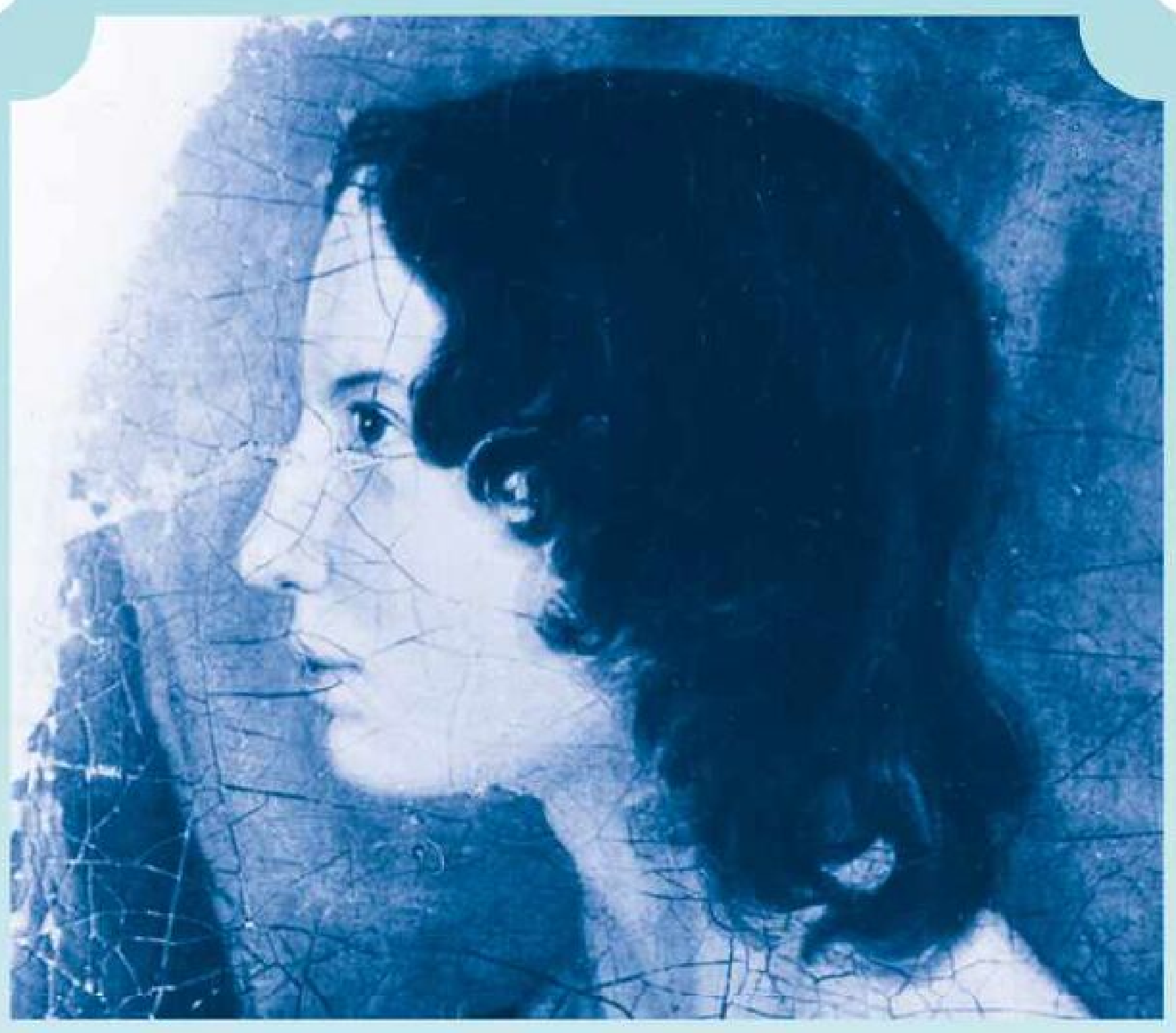


ADA LOVELACE

1815–52

Daughter of the poet Lord Byron and Annabella Milbanke, Ada Lovelace is widely considered the world's first computer programmer. Annabella, herself a highly educated woman, promoted her daughter's interest in logic and mathematics. When she was just 17, Ada met mathematician and inventor Charles Babbage and became fascinated with his Analytical Engine – an automatic mechanical digital computer. She would later translate an article about the Analytical Engine by Italian engineer Luigi Federico Menabrea, adding her own notes (three times longer than the original text) which contain what is considered to be the first computer program or algorithm, and demonstrating her awareness of the machine's future potential. There is still debate about how much Ada contributed to Babbage's work and who wrote about what first, but she is remembered for her vision in an era of great restrictions for women.





EMILY BRONTË

1818–48

One of the talented Brontë siblings, Emily lived most of her life on the remote Yorkshire Moors with her family. Her only published novel – the dark and tragic *Wuthering Heights* – is considered a classic of English literature. Along with sisters Charlotte and Anne, Emily was first published under a pseudonym in a book of poems. She died in 1848 of tuberculosis, less than three months after her brother Branwell.

WORDS: EMMA SLATTERY WILLIAMS

GETTY IMAGES X7, ALAMY X1

CRIME AND PUNISHMENT

It didn't pay to be on the wrong side of the law in Victorian England

If you were to pick up a copy of *The Illustrated Police News* – one of Victorian Britain's first tabloid newspapers, which reported murders and hangings in full, salacious detail – you would likely feel that the 19th century was a veritable bloodbath of death and danger. But how worried *were* Victorians about their personal safety?

"Looking at crime statistics for the Victorian period can only tell you so much," says Sarah Richardson, professor of history at the University of Warwick, adding that a lot of it actually came down to perceptions of crime at the time.

"The Victorians were very worried and preoccupied with particular groups of criminals," she explains. "The concept of juvenile crime, for example, was almost invented in this period, and there were real concerns about what to do with child criminals. In the early part of the 19th century, the only thing that could be done was to transport them to Australia – even children as young as ten or 12 – or lock them up in adult prisons. But from the late 1850s, you start to see things like reform schools and borstals being introduced."

There was also a belief among the middle classes that child criminals could be divided into two categories: the perishing classes – who were born into poverty and had no choice but to steal and commit crimes – and the dangerous classes. These children were, according to this mindset, essentially born evil.

SYSTEMS OF PUNISHMENT

Until the early 19th century, Britain operated under the Bloody Code, a system that listed more than 200 offences as punishable by death – from murder and arson to pickpocketing and even cutting down hop-vines. By the mid-19th century, however, moves were being made to remove criminals from society rather than kill them, and imprisonment became the primary form of punishment.

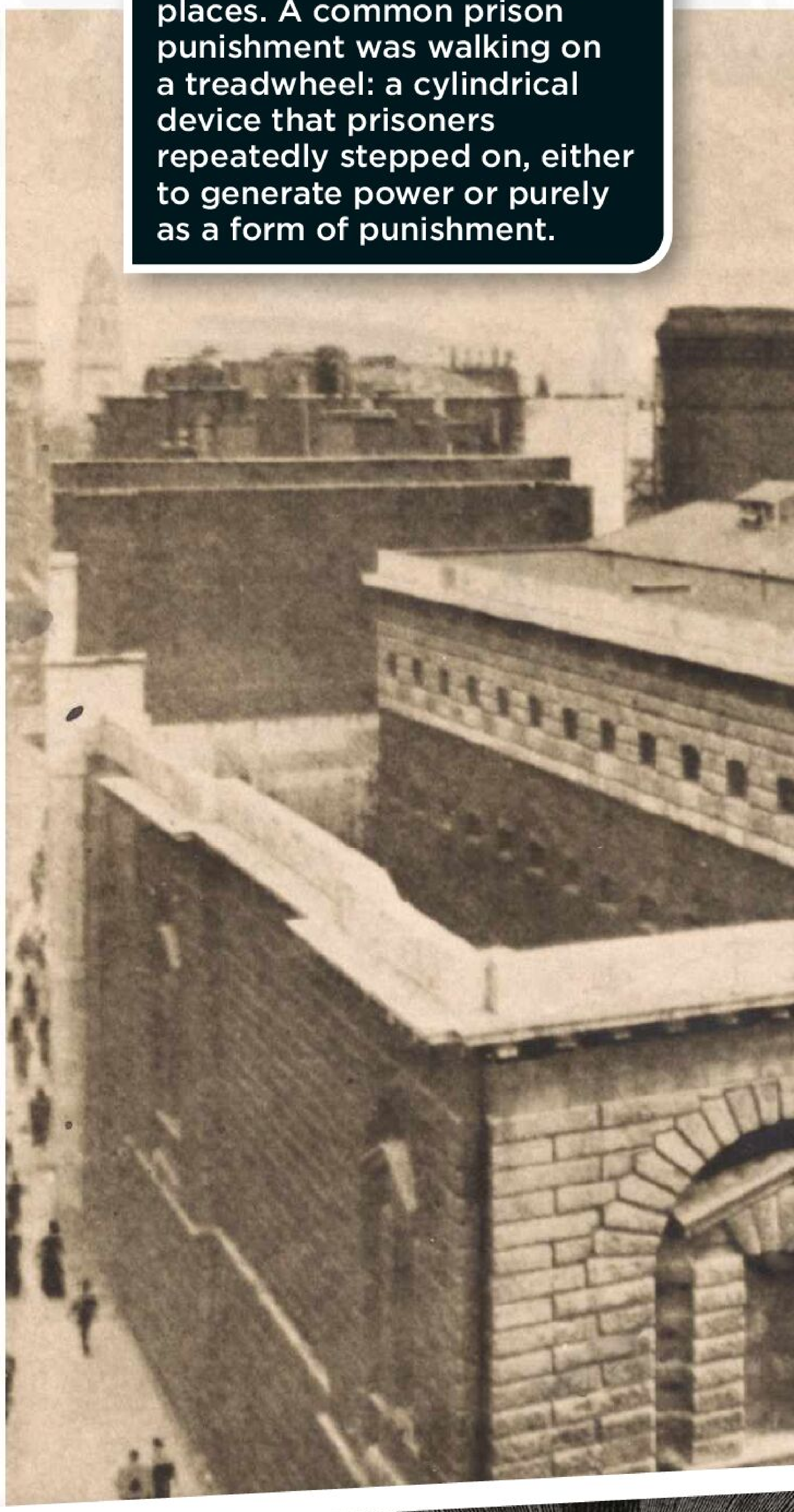
Philosopher Jeremy Bentham's idea that placing people in solitary confinement where they could reflect upon their crimes was initially a popular one, and prisoners would carry out forms of hard labour – breaking rocks or picking rope – as part of their punishment. But by the end of the period, prisoner aid societies were being set up to educate and rehabilitate inmates, and in 1886 the Probation of First Time Offenders Act was passed. This saw missionaries and magistrates develop a system of releasing offenders on the condition that they kept in touch with, and accepted guidance from, the missionaries.

"Transportation to Australia or other British colonies was another common form of punishment in the early 19th century," says Richardson, "but by the 1850s, transportation had fallen out of favour – mainly because of the costs involved, but also because of resistance from the colonies who were receiving Britain's criminal population."

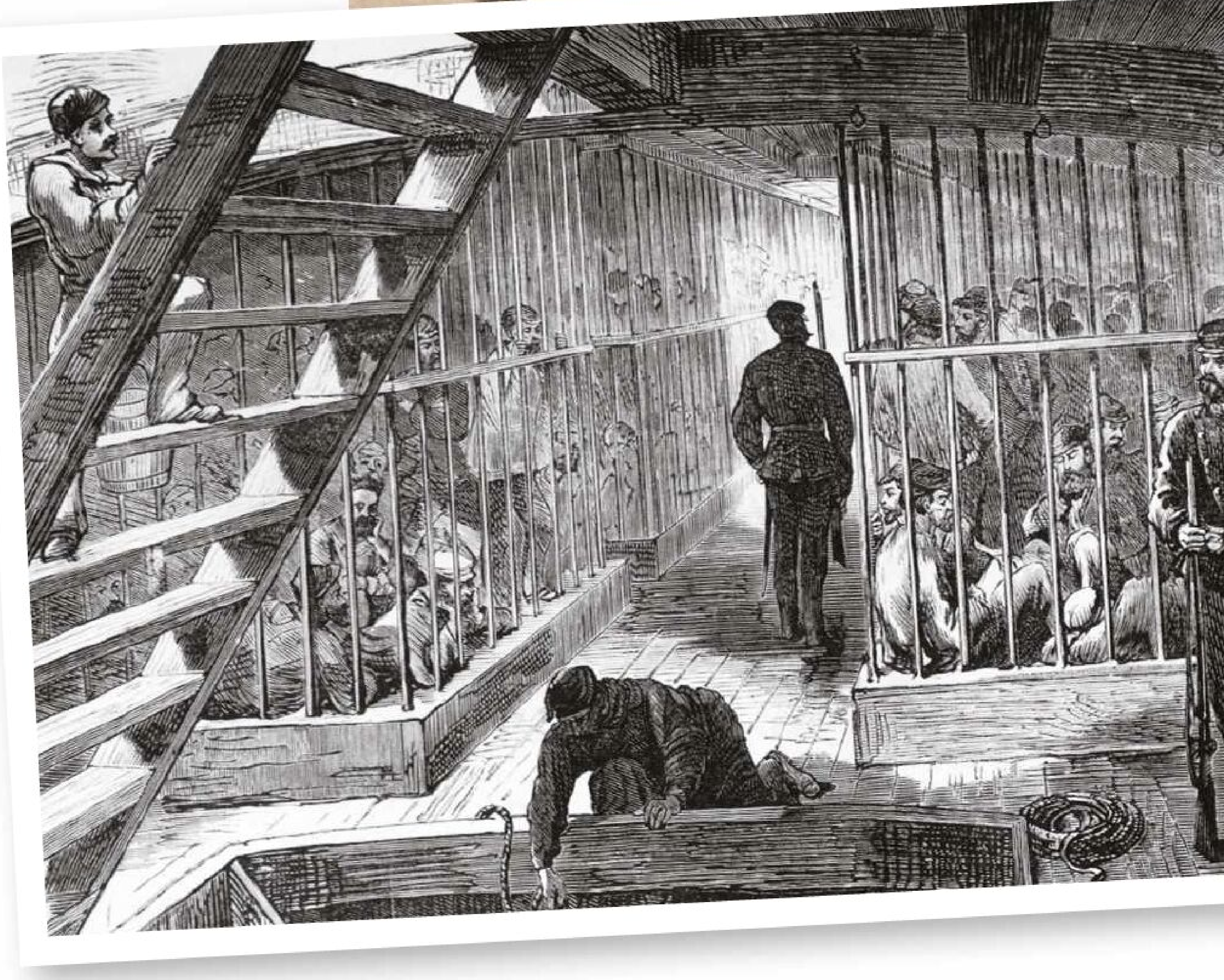
Transportation, although perhaps a welcome reprieve from the death sentence for most criminals, carried its own dangers and hardships. "It was, in many ways, a life sentence," comments Richardson. "Although you might have been sentenced to seven years transportation, it was unlikely that you would ever return home or see your family and friends again."

Around 162,000 convicts were sent to Australia between 1787 and 1868, some 80 per cent of whom had been found guilty of theft and around one in seven of which were women. Before making the journey, prisoners were held in prison or on floating prison-ships, known as hulks, while they waited for other prisoners to join them. The journey to Australia itself took months, and conditions onboard were cramped, with many convicts chained up in leg irons. Upon their arrival, prisoners who had survived the journey were set to work, with many building roads or breaking rocks.

Well-behaved prisoners could earn a ticket-of-leave for good behaviour and secure themselves an early release.



PAINED PRISONERS
Victorian prisons were designed to be distressing places. A common prison punishment was walking on a treadwheel: a cylindrical device that prisoners repeatedly stepped on, either to generate power or purely as a form of punishment.



Prisoners were commonly caged or restrained during their transportation to Australia, as this c1890 etching shows

But even serving a full sentence and receiving a certificate of freedom didn't necessarily mean going home, for few could afford a ticket for the return journey. Most remained in Australia with the country's free settlers, with some even rising to prominent positions in Australian society. Pickpocket George Barrington became superintendent of convicts in Parramatta, for instance, while sheep-thief Daniel Connor was known as one of Perth's largest landowners by the 1890s. ⊙

WORDS: CHARLOTTE HODGMAN

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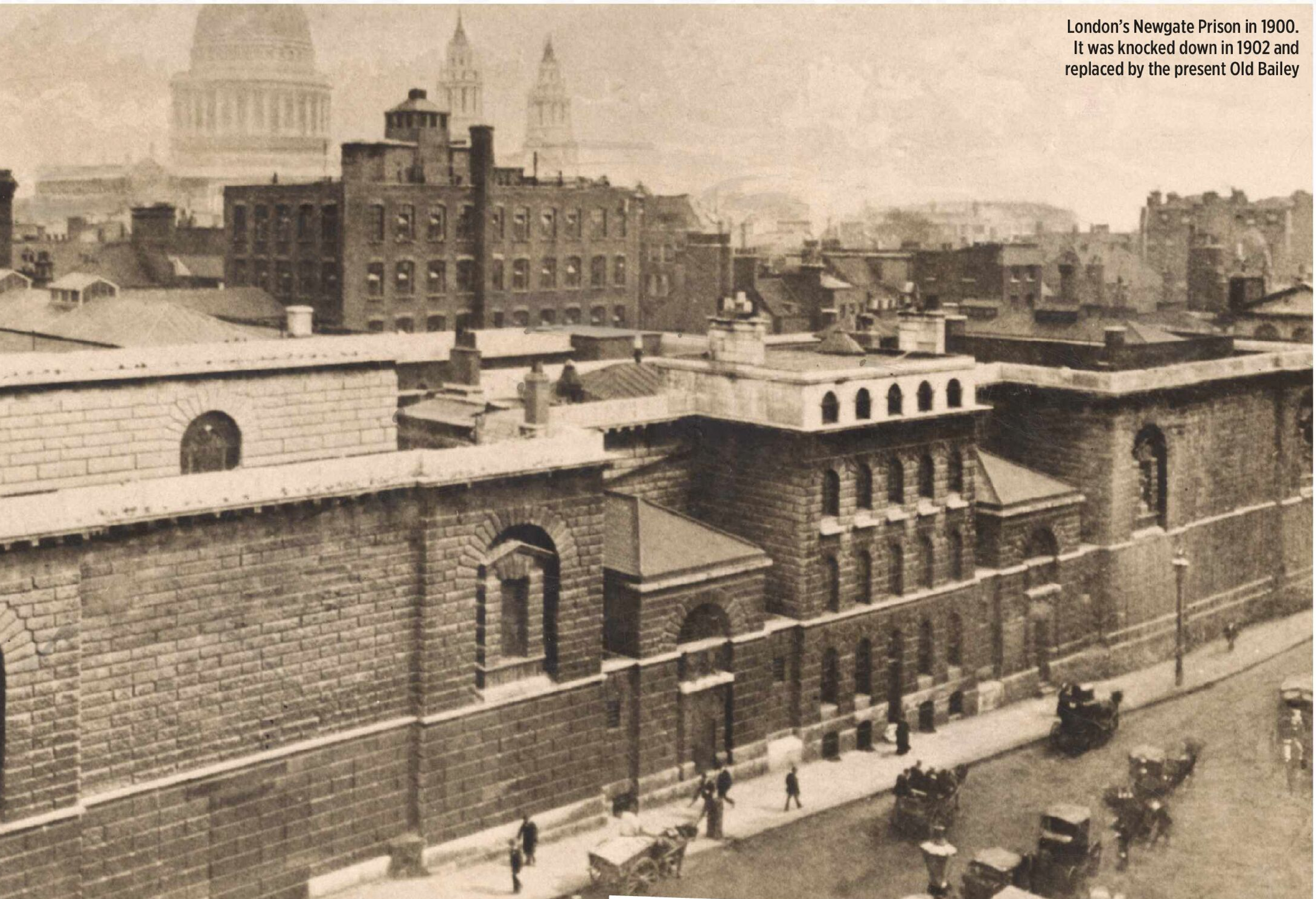


London's Newgate Prison in 1900. It was knocked down in 1902 and replaced by the present Old Bailey

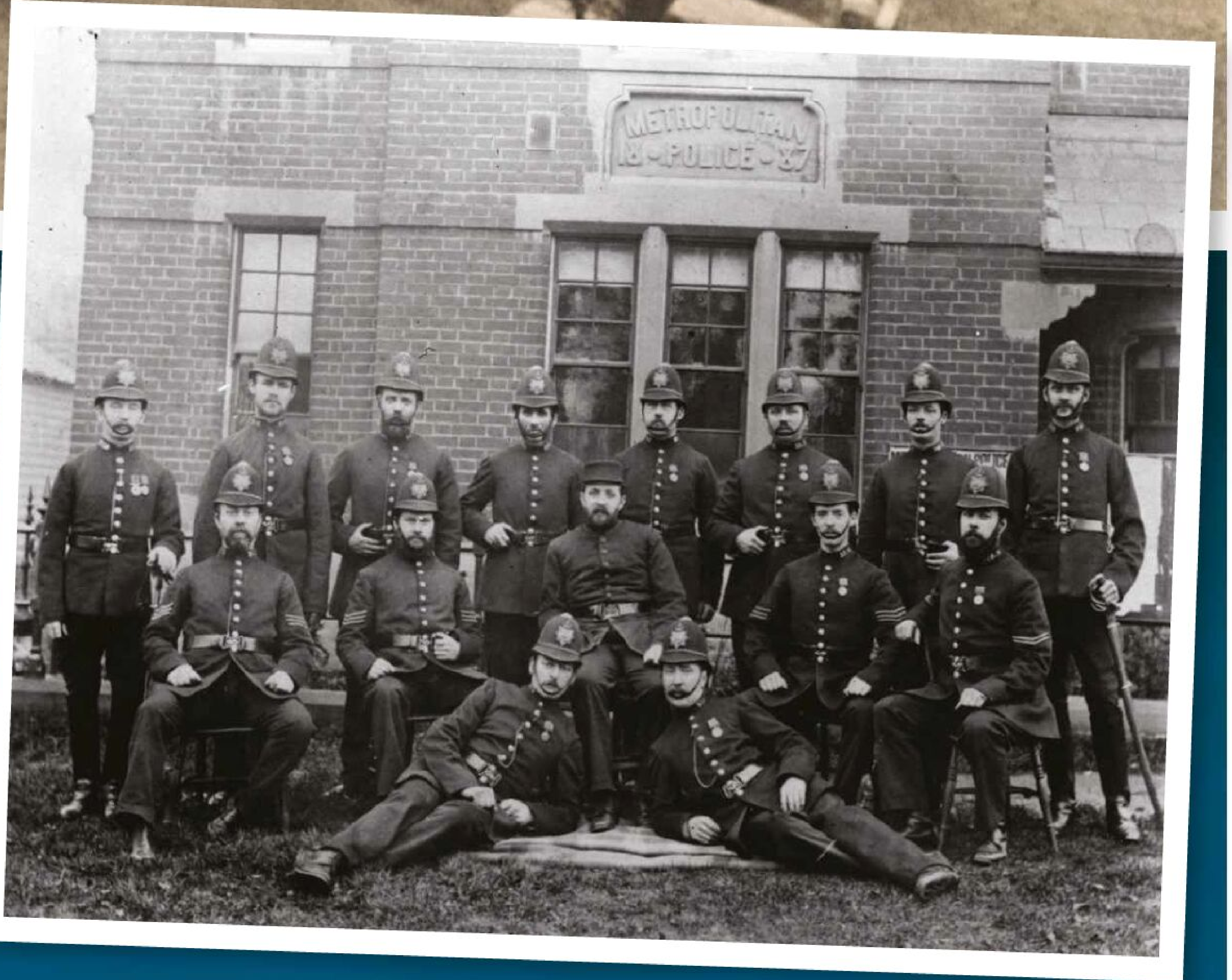
BOBBIES ON THE BEAT

London's new police force divided opinion

In 1829, Conservative Home Secretary (and later prime minister) Sir Robert Peel established the Metropolitan Police in London, England's first modern police force. Previously, attempts to keep law and order were undertaken by so-called thief catchers or watchmen, but Peel's new, uniformed agency was designed as a permanent body of professional law-enforcers, initially comprising 895 constables, 88 sergeants, 20 inspectors and eight superintendents.

"The Metropolitan Police was designed to bring a more professional air to policing," says Richardson. "Previously, law enforcers had been seen as being little better than the criminals they were policing – or at least part of the same class. But although the new police force was welcomed by the middle classes, they were generally viewed with suspicion by people in working-class communities, who felt a sense of over-surveillance and believed they were being punished disproportionately."

In Scotland, Glasgow's police force had first taken to the streets in 1789 and had been formally recognised in 1800 with the Glasgow Police Act. Elsewhere, in Ireland, the Constabulary Act of 1822 had seen the establishment of a system of county constabularies, followed in 1836 by the introduction of a single police force – the Constabulary of Ireland.



Members of the Metropolitan Police outside their station in the late Victorian era, c1890

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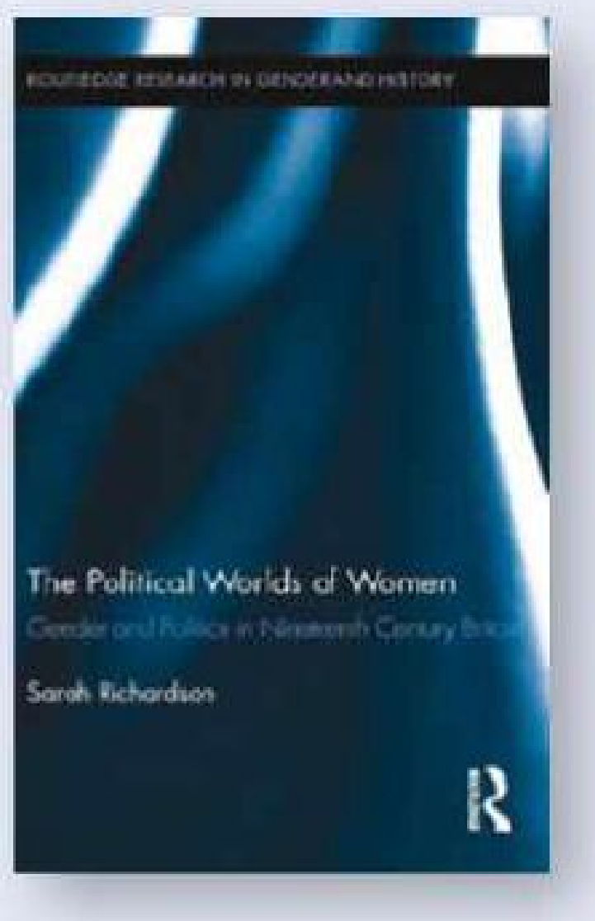
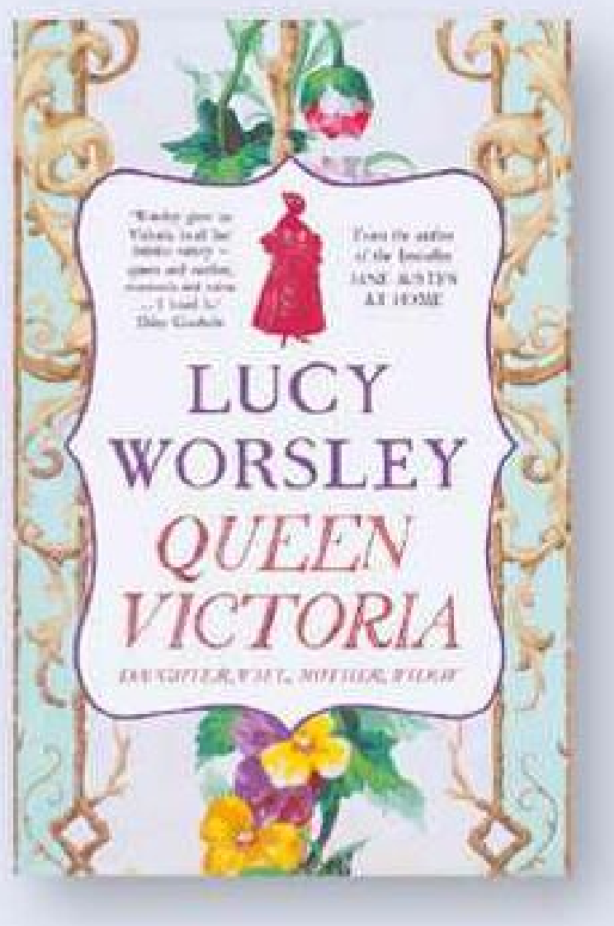


The Political Worlds of Women: Gender and Political Culture in Nineteenth-Century Britain

By Prof Sarah Richardson
(Routledge, 2013)

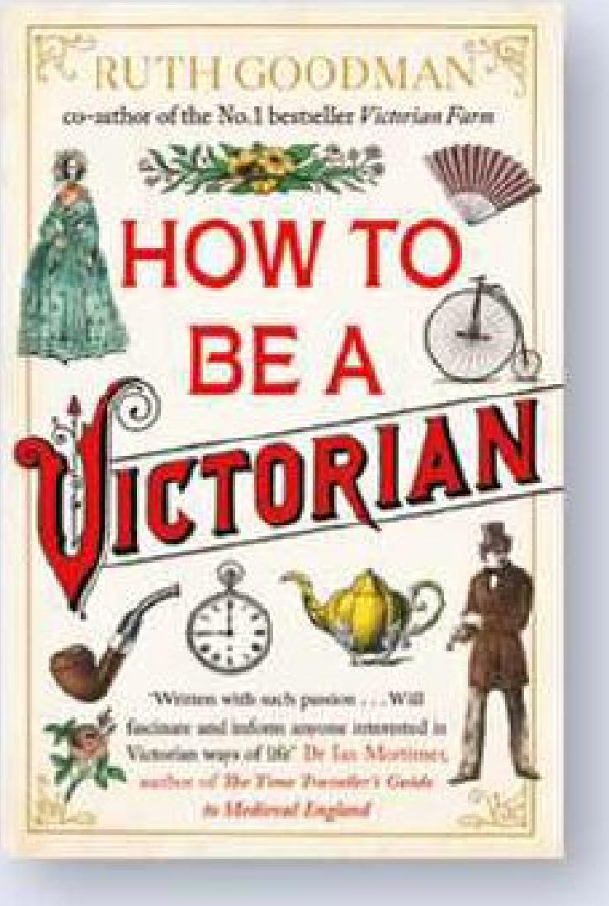
Sarah Richardson examines female engagement in traditional and unconventional political arenas, including female sociability, salons, child-rearing, education and health.



Queen Victoria: Daughter, Wife, Mother, Widow

By Lucy Worsley
(Hodder & Stoughton, 2018)

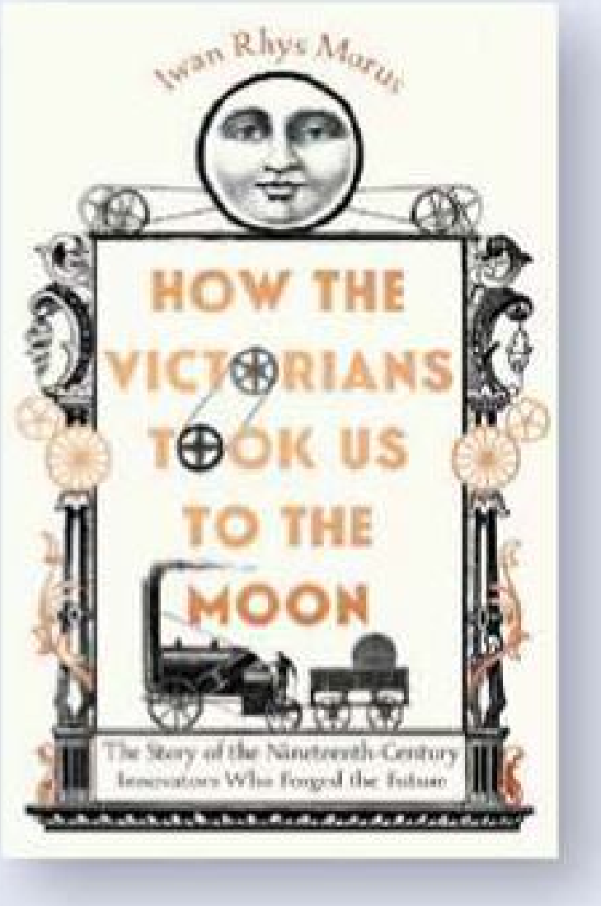
Who was Queen Victoria? A little old lady dressed in black? Or a passionate young princess, a romantic heroine with a love of dancing? Lucy Worsley examines 24 days of the queen's life, through diaries, letters and more.



How to be a Victorian: A Dawn-to-Dusk Guide to Victorian Life

By Ruth Goodman
(Liveright, 2020)

Drawing on her own adventures living in re-created Victorian conditions, Ruth Goodman serves as a guide to the often weird and wonderful intricacies of 19th-century life.



How the Victorians Took Us to the Moon

By Iwan Rhys Morus
(Icon, 2022)

Iwan Rhys Morus explores the 19th century's grand ambitions in the realms of science and technology, and Victorian visions of innovations – both real and imagined – that would shape the future in their own image.

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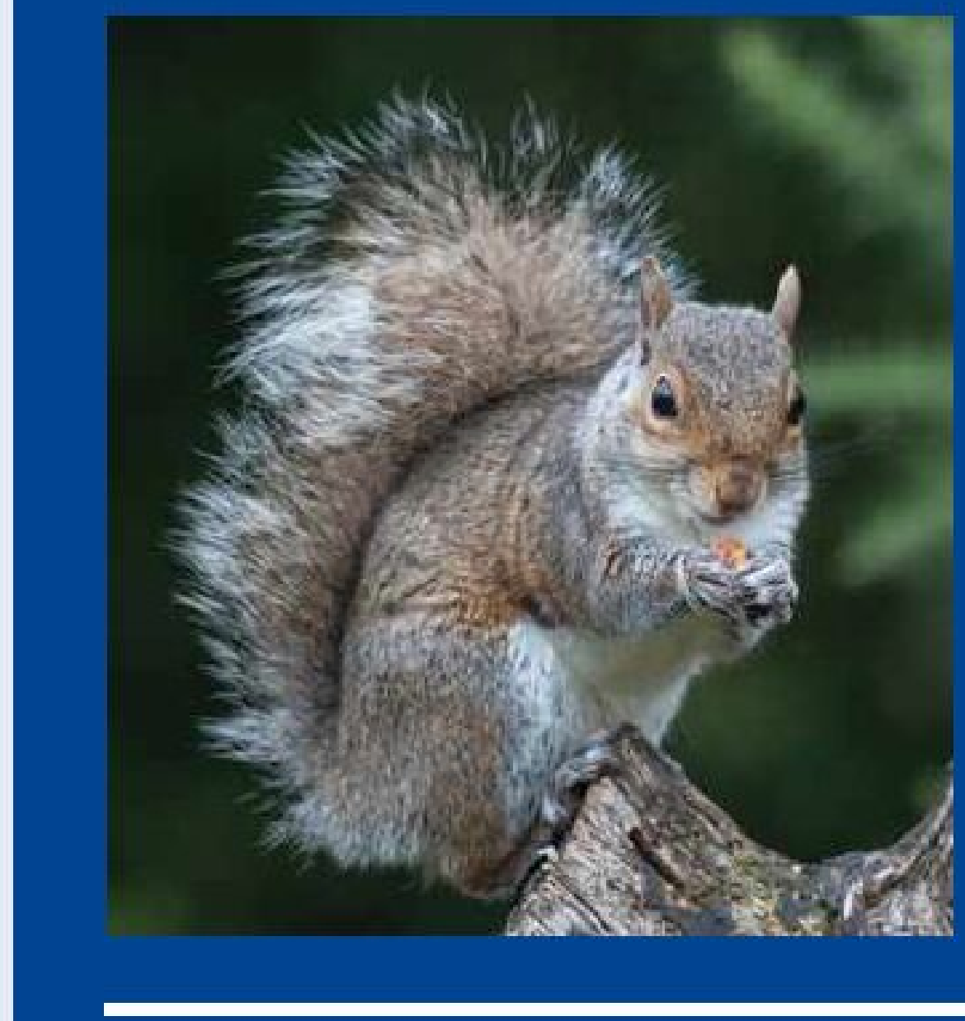

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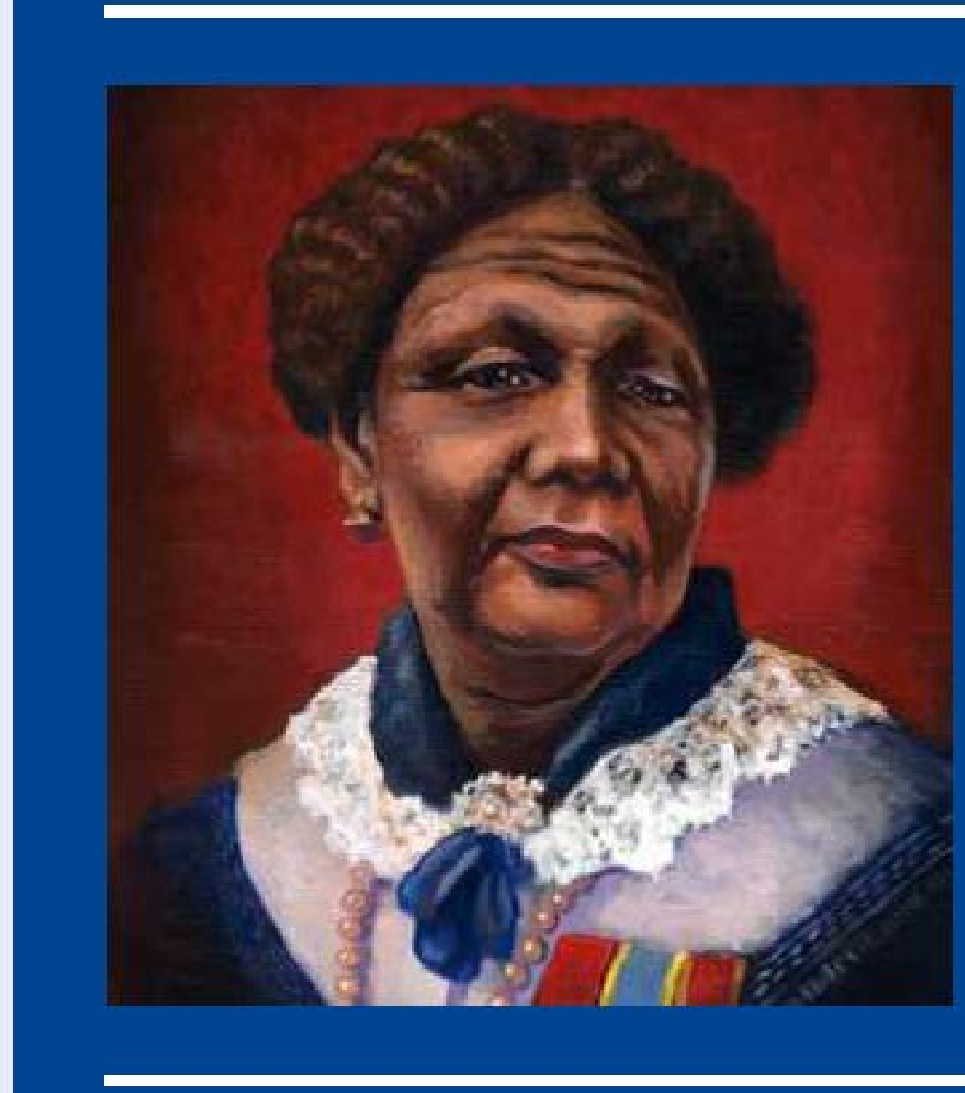

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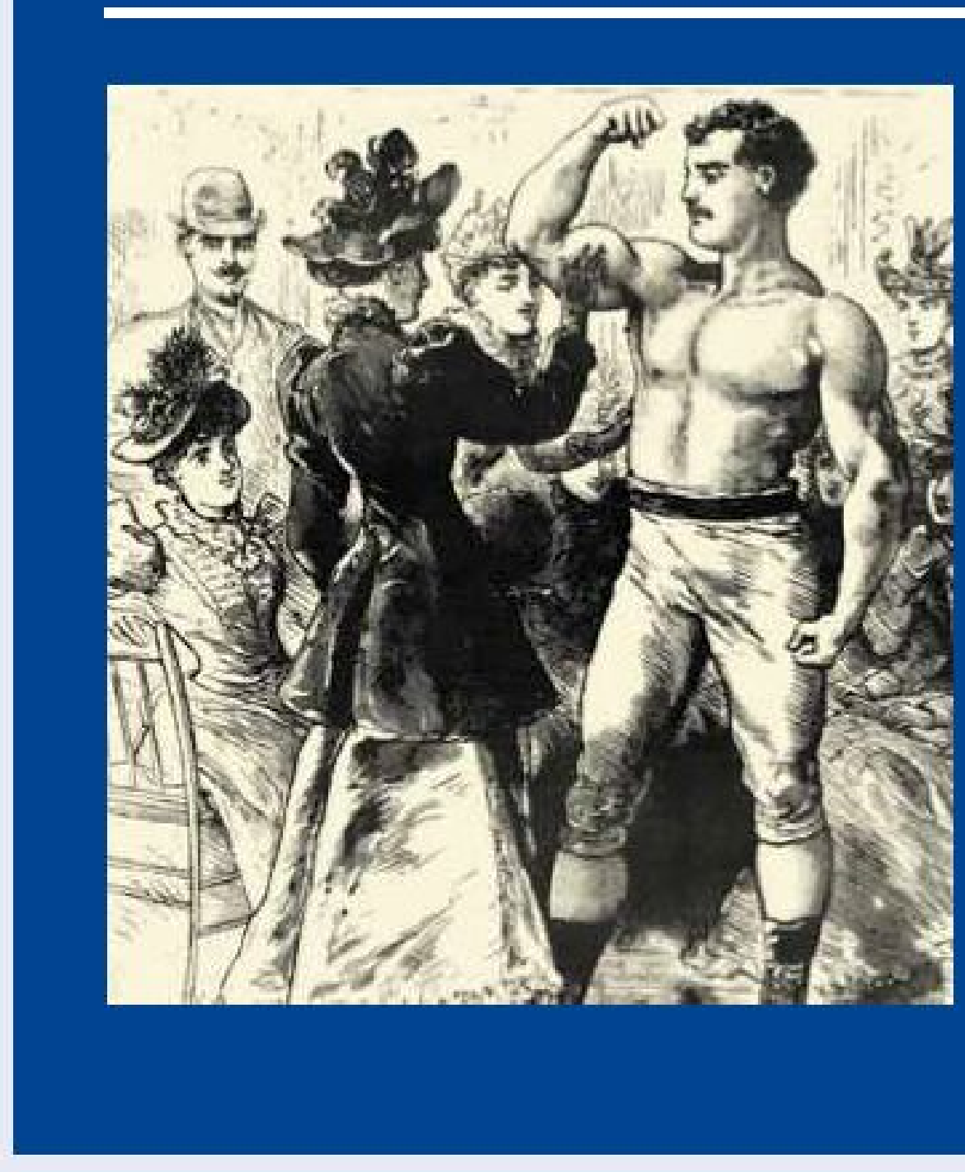

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Victoria

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The life and reign of Queen Victoria is explored in this sumptuous three-season historical drama

Murder on the Victorian Railway

(BBC iPlayer)

A documentary about the first murder on Britain's railways: in 1864, blood was discovered on a Hackney-bound train, and a body found on the embankment

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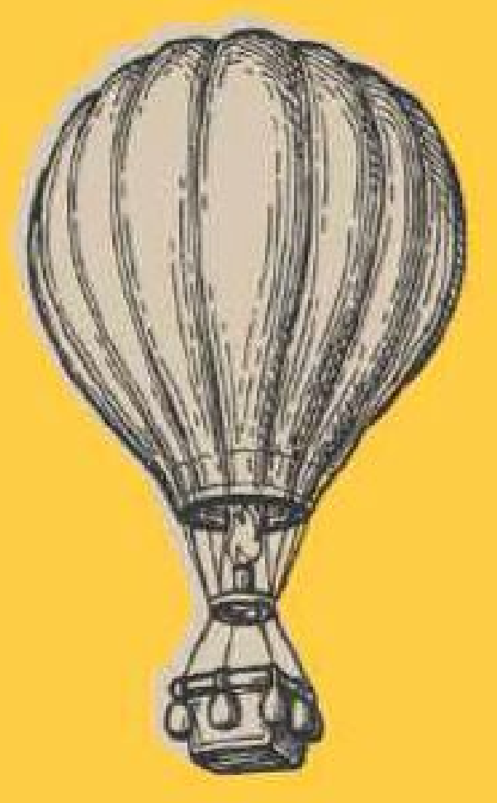

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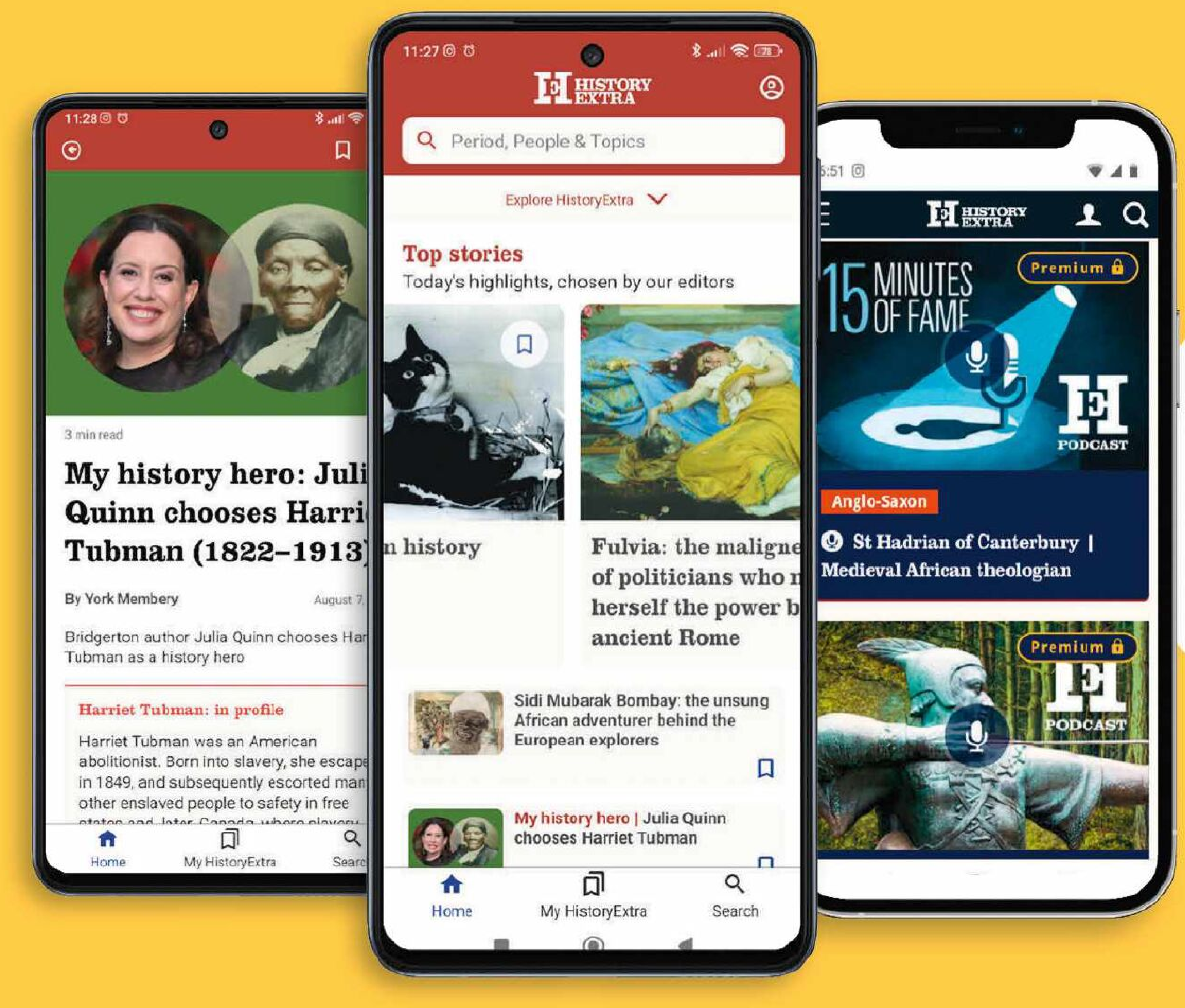

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Quinn chooses Harri
Tubman (1822–1913)

By York Membery

August 7,

Bridgerton author Julia Quinn chooses Har
Tubman as a history hero

Harriet Tubman: in profile

Harriet Tubman was an American abolitionist. Born into slavery, she escape in 1849, and subsequently escorted man other enslaved people to safety in free

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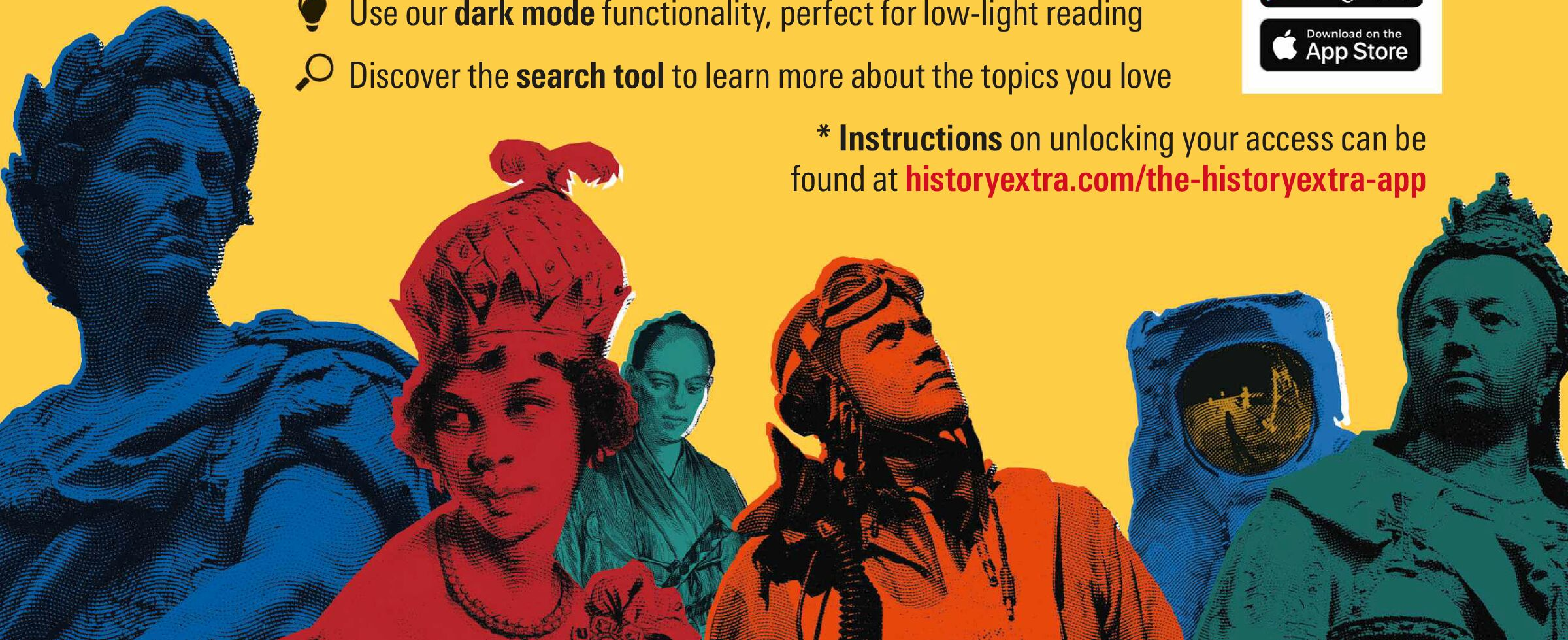

PODCAST

Professor Emma Griffin discusses the Industrial Revolution on the *HistoryExtra* podcast: *historyextra.com/industrial-revolution-qa*

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YOUR ESSENTIAL GUIDE TO THE INDUSTRIAL REVOLUTION

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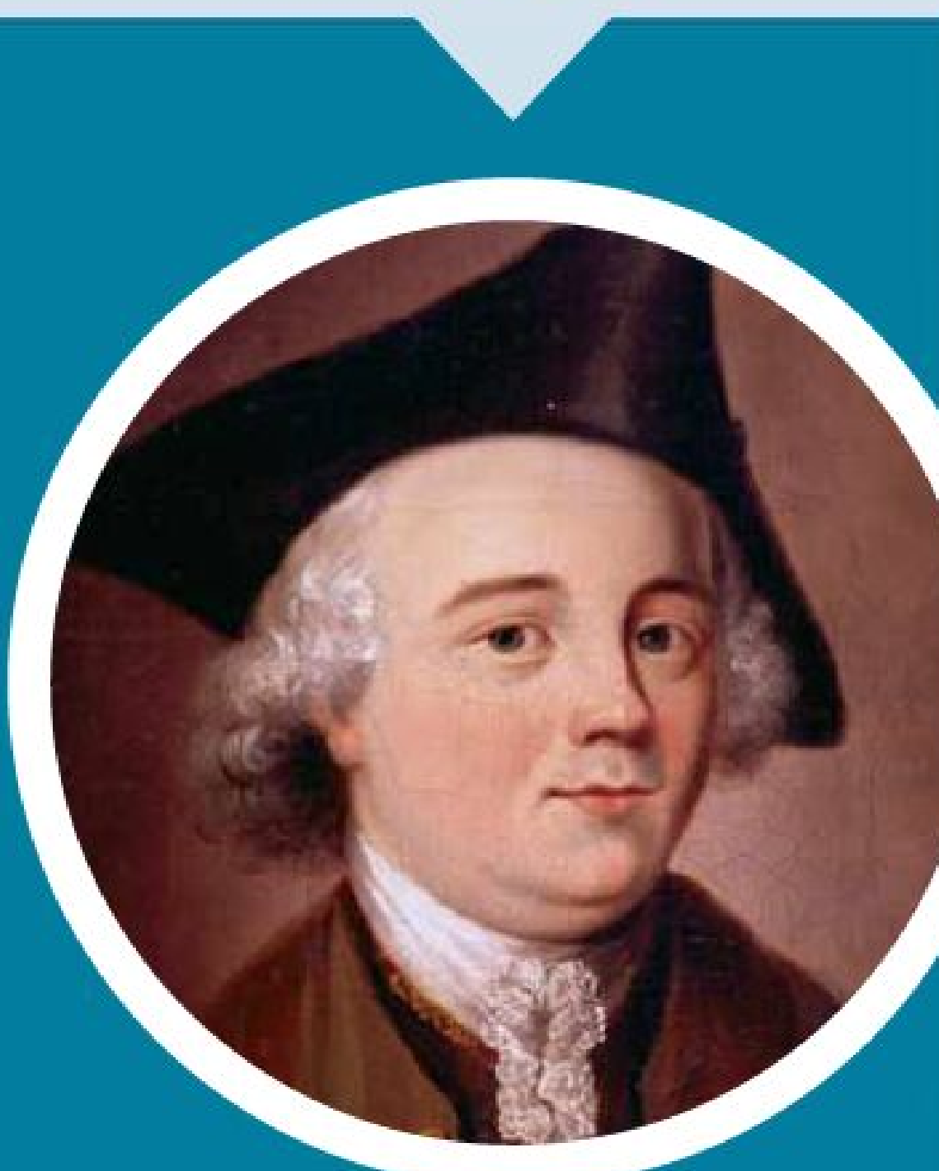
HISTORICAL CONSULTANT FOR THIS ESSENTIAL GUIDE

EMMA GRIFFIN is professor of British history at Queen Mary University of London and president of the Royal Historical Society. She is the author of five books, including *Bread Winner: An Intimate History of the Victorian Economy* (Yale University Press, 2020)

BRITAIN'S INDUSTRIAL BOOM

1733



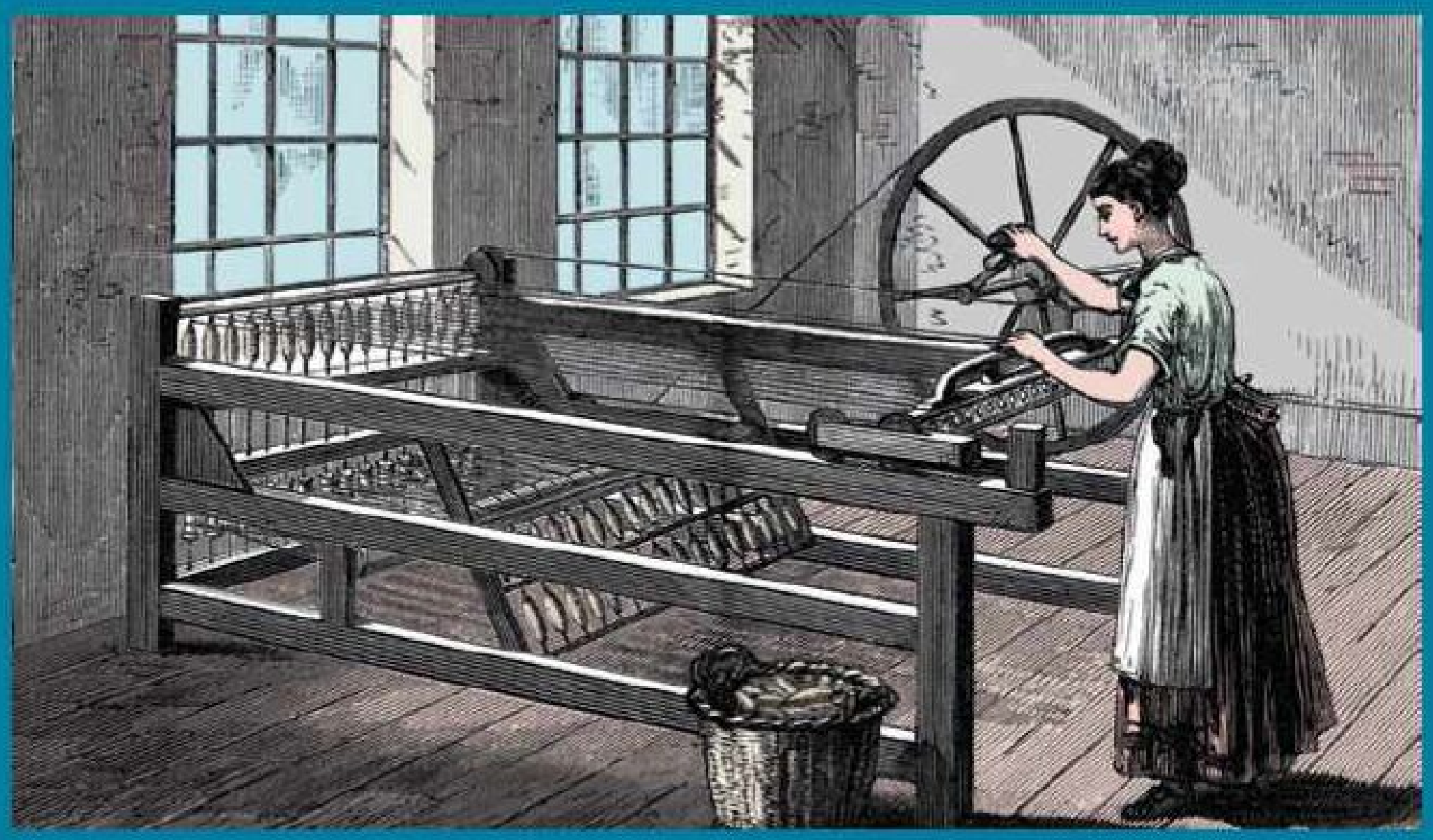
▲ John Kay invents the 'flying shuttle', speeding up the weaving process and making looms more automated.

1761

The Bridgewater Canal opens, connecting Manchester to coal mines in Worsley. A remarkable feat of engineering – as the first canal in Britain not built on an existing waterway – it helps spark a period known as 'canal mania', with intense construction across England and Wales.

c1764

▼ James Hargreaves creates the 'spinning jenny', a hand-powered machine capable of spinning eight threads of cotton or wool at once – a huge step in the industrialisation of the textile industry.

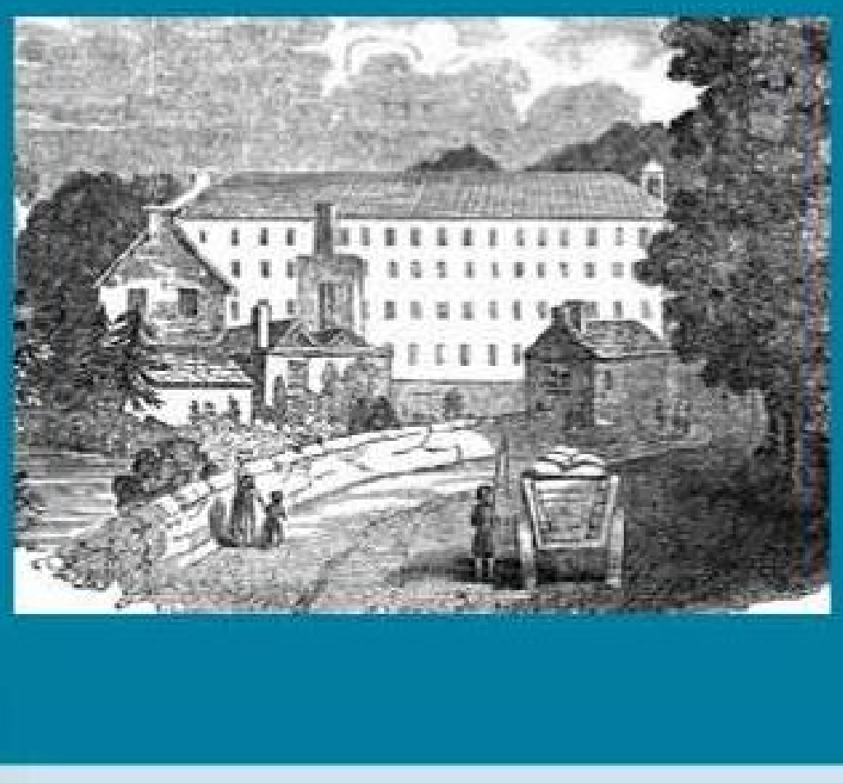


1769

The so-called 'father of the factory system', Richard Arkwright, patents his spinning frame. The water-powered machine makes it possible to mass produce cotton yarn and does not require skilled workers.

1771

▼ Arkwright opens the world's first water-powered cotton mill in Cromford, Derbyshire. Soon, similar mills and factories are being built across Britain.



1815

◀ Two designs of miner's safety lamp (*pictured*) are independently developed by Humphry Davy and George Stephenson so that miners can have light without risking an explosion from the methane gas in the pits.

1819

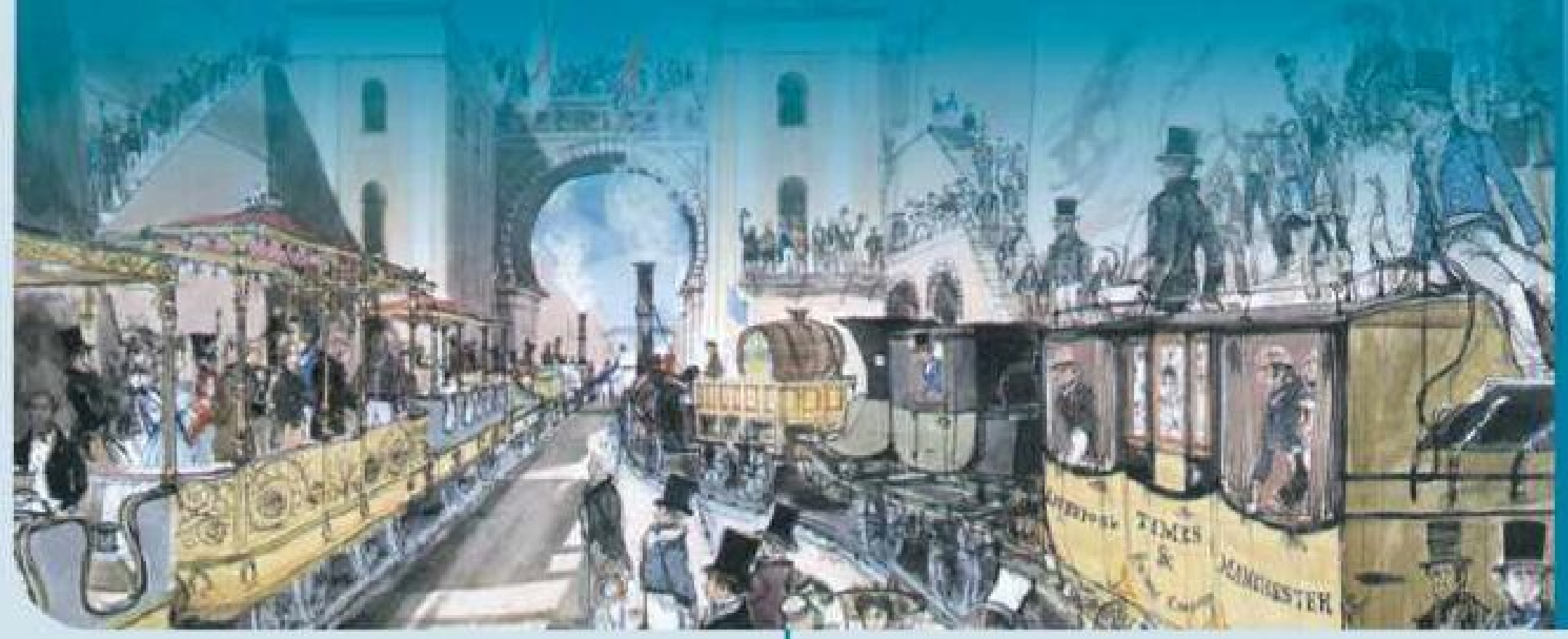
The Cotton Mills and Factories Act attempts to regulate child labour in the cotton industry, banning the employment of children under nine and limiting those under 16 to 12 hours a day. The law isn't widely enforced and magistrates often side with the factory owners.

1825

The Stockton and Darlington Railway opens as Britain's first steam-hauled passenger railway. As the power and speed of steam engines improves, the expansion of railway networks accelerates – by 1844, there will be over 2,210 miles of track across Britain.

1830

▼ The first inter-city rail line opens, designed and built by George Stephenson. It offers easy access for the landlocked industrial city of Manchester to the ports of Liverpool, with goods flowing between the two cities. With his son Robert, Stephenson also develops the steam locomotive, the *Rocket*.



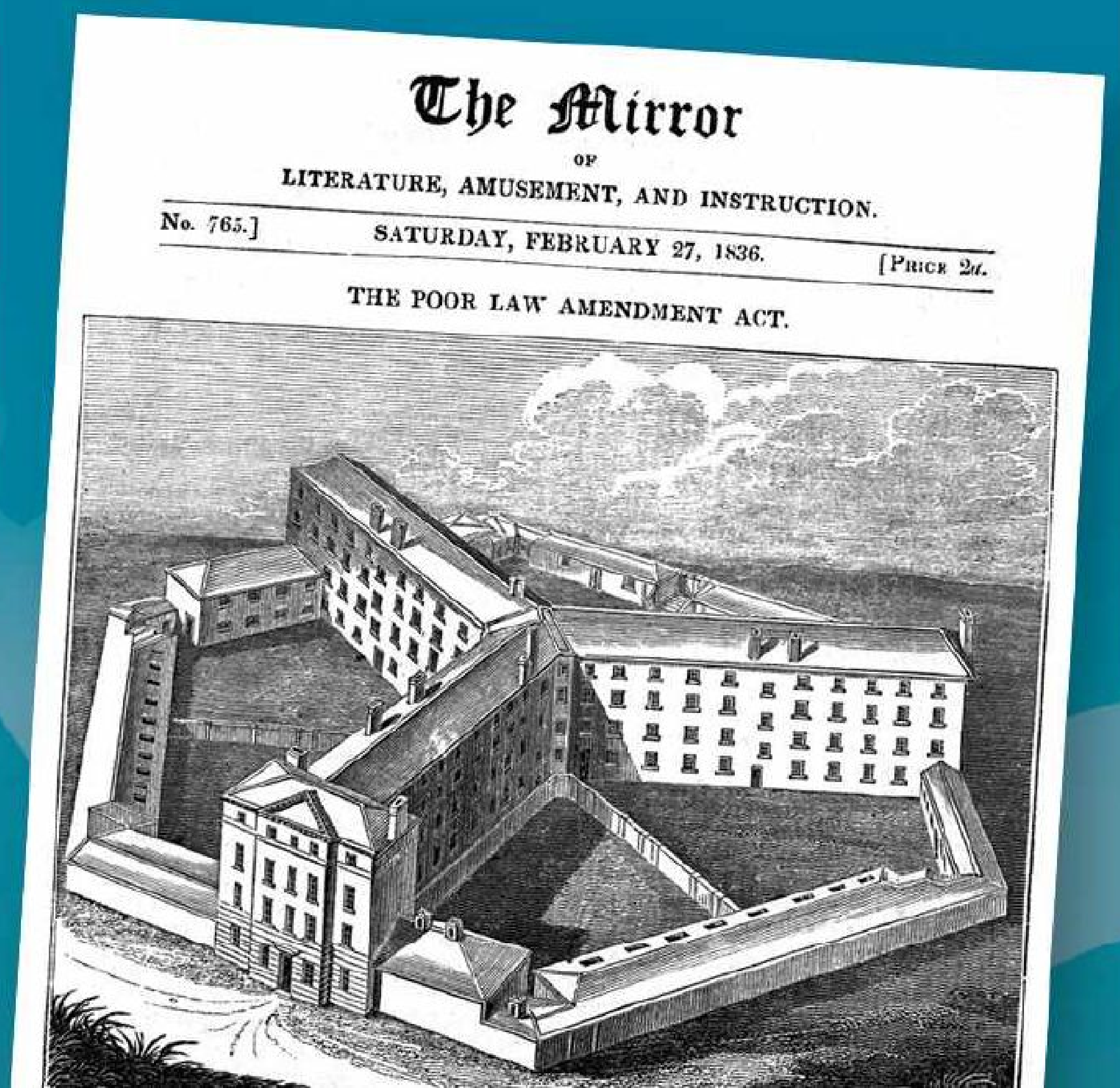
GETTY IMAGES X17

1833

The ban on employing children under nine is extended to the whole textile industry with the Factory Act. The legislation also ensures that all children under 13 years of age receive two hours of education per day.

1834

▼ The Poor Law establishes workhouses for the poor and destitute.



The Mirror
OF
LITERATURE, AMUSEMENT, AND INSTRUCTION.
No. 765.] SATURDAY, FEBRUARY 27, 1836. [PRICE 2d.
THE POOR LAW AMENDMENT ACT.

1842

A royal commission investigating working conditions in mines and factories issues *The First Report of the Children's Employment Commission*. Public outcry leads to the Mines and Collieries Act, forbidding all women and under 10s from working underground.

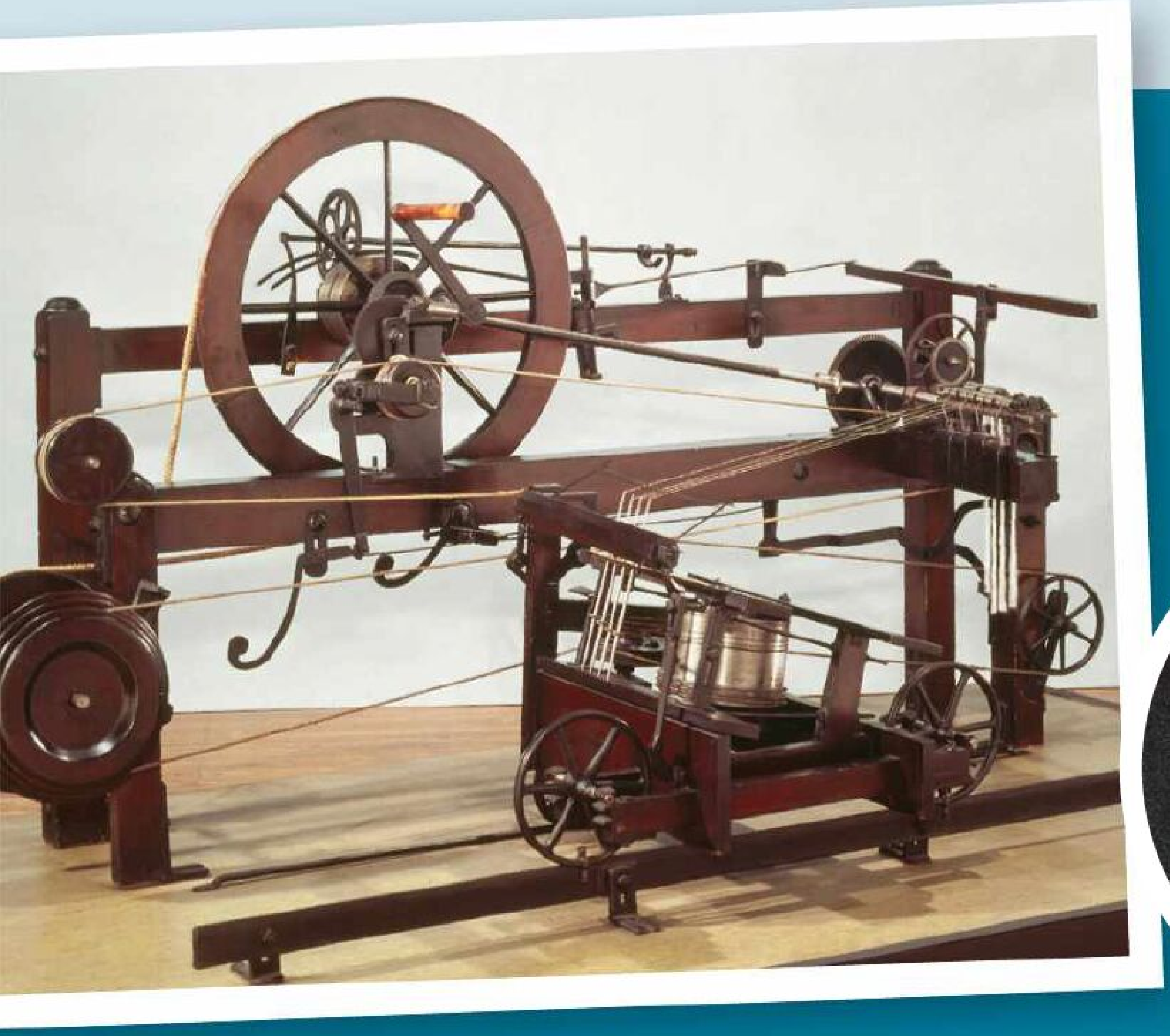
1844

Another Factories Act demands all hazardous machinery be fenced off and states that children must not clean any machine in motion.

1847

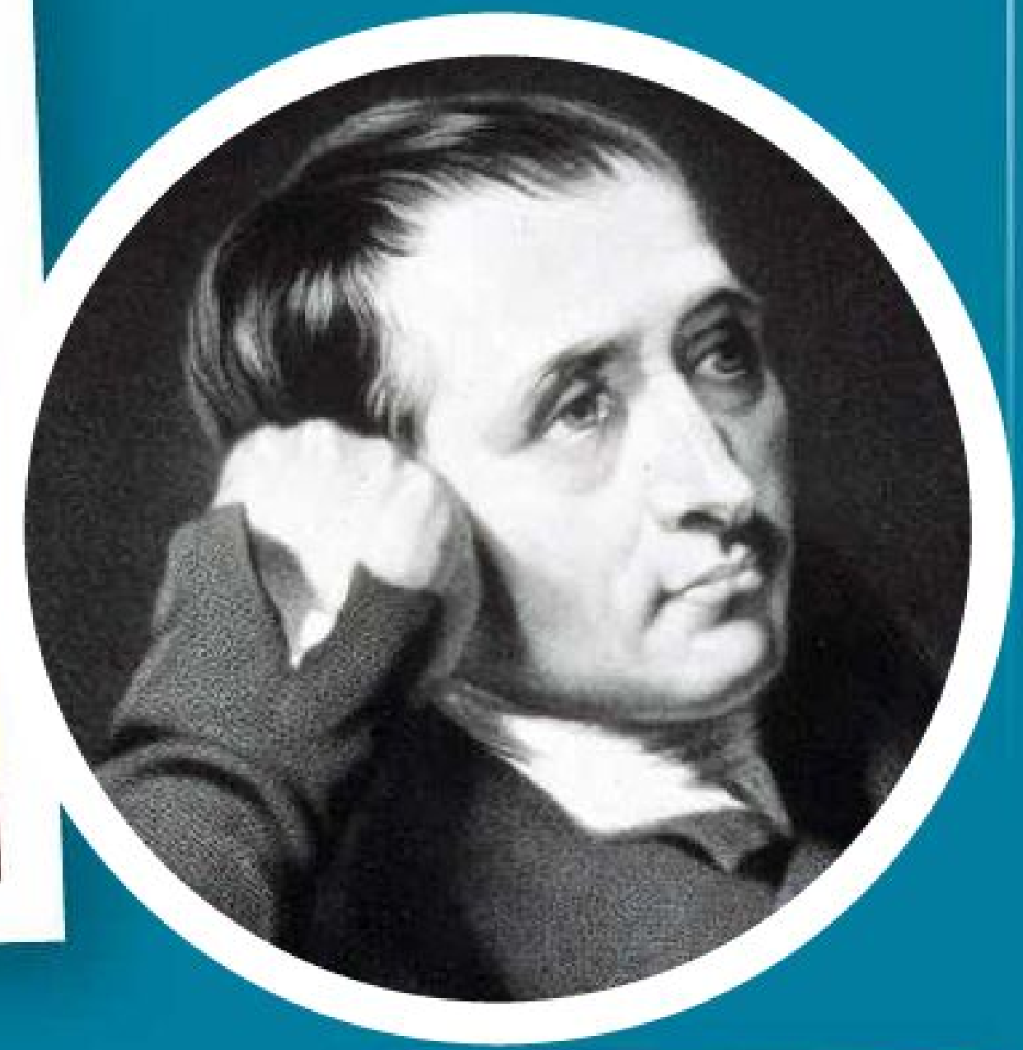
▼ The Ten Hours Act limits the working day for women and children to 10 hours.

Throughout the 18th and 19th centuries, Britain led the way in industrialisation, which saw rapid changes across both technological and social spheres



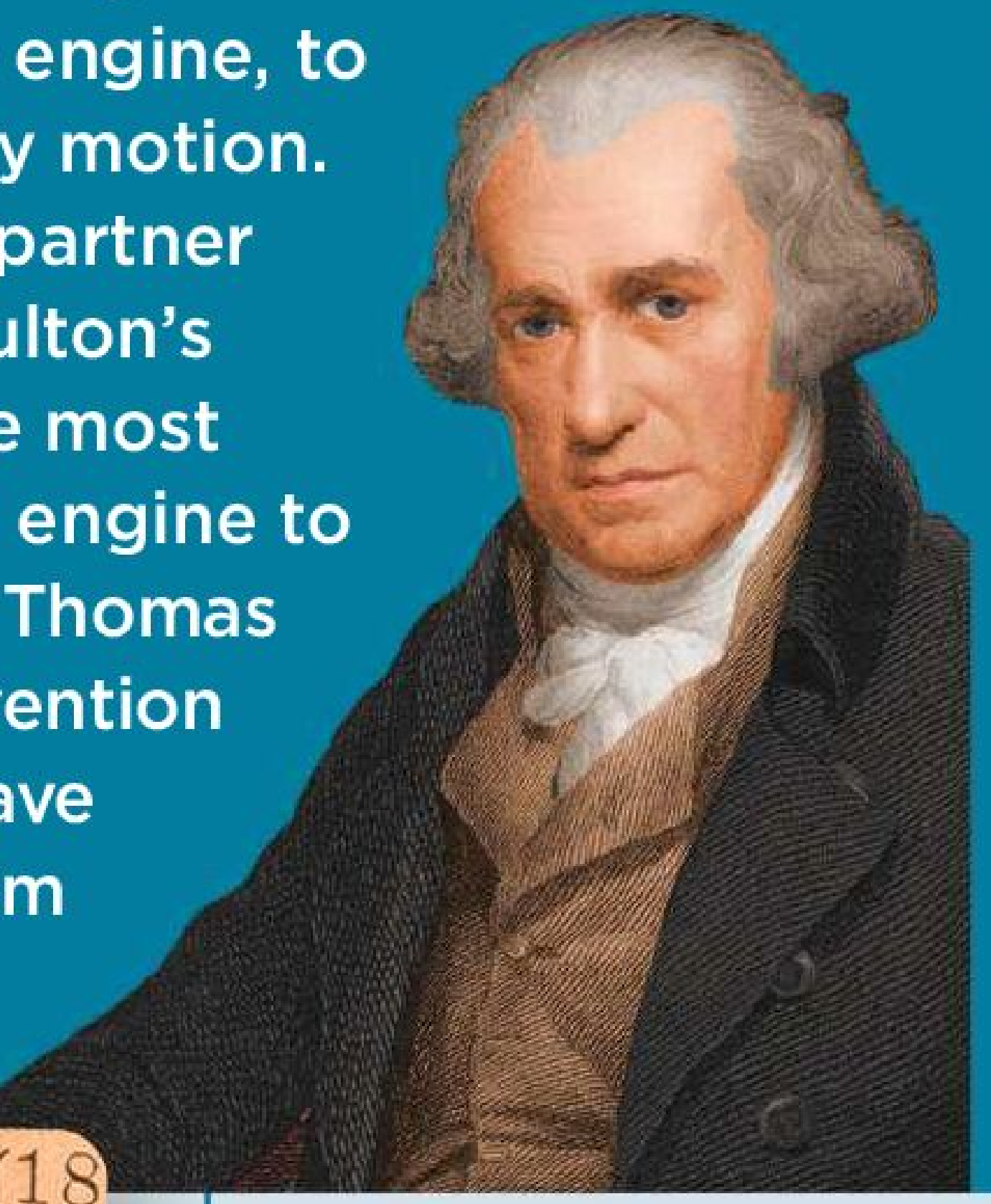
1779

◀ Samuel Crompton combines spinning and weaving in one machine – the spinning mule.

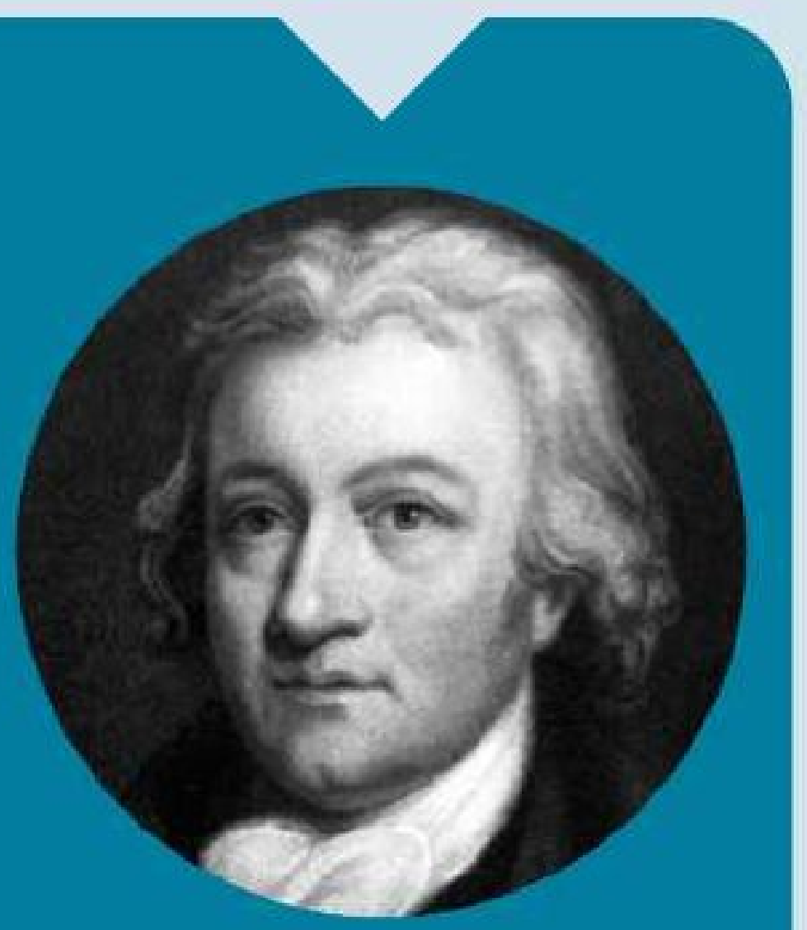


1781

▼ The need for water wheels to power machines is reduced after Scottish inventor James Watt (*below*) introduces a 'sun and planet gear' to his existing steam engine, to generate rotary motion. Watt and his partner Matthew Boulton's design is the most efficient steam engine to date; based on Thomas Newcomen's invention of 1712, they have been selling them since 1776.



1785



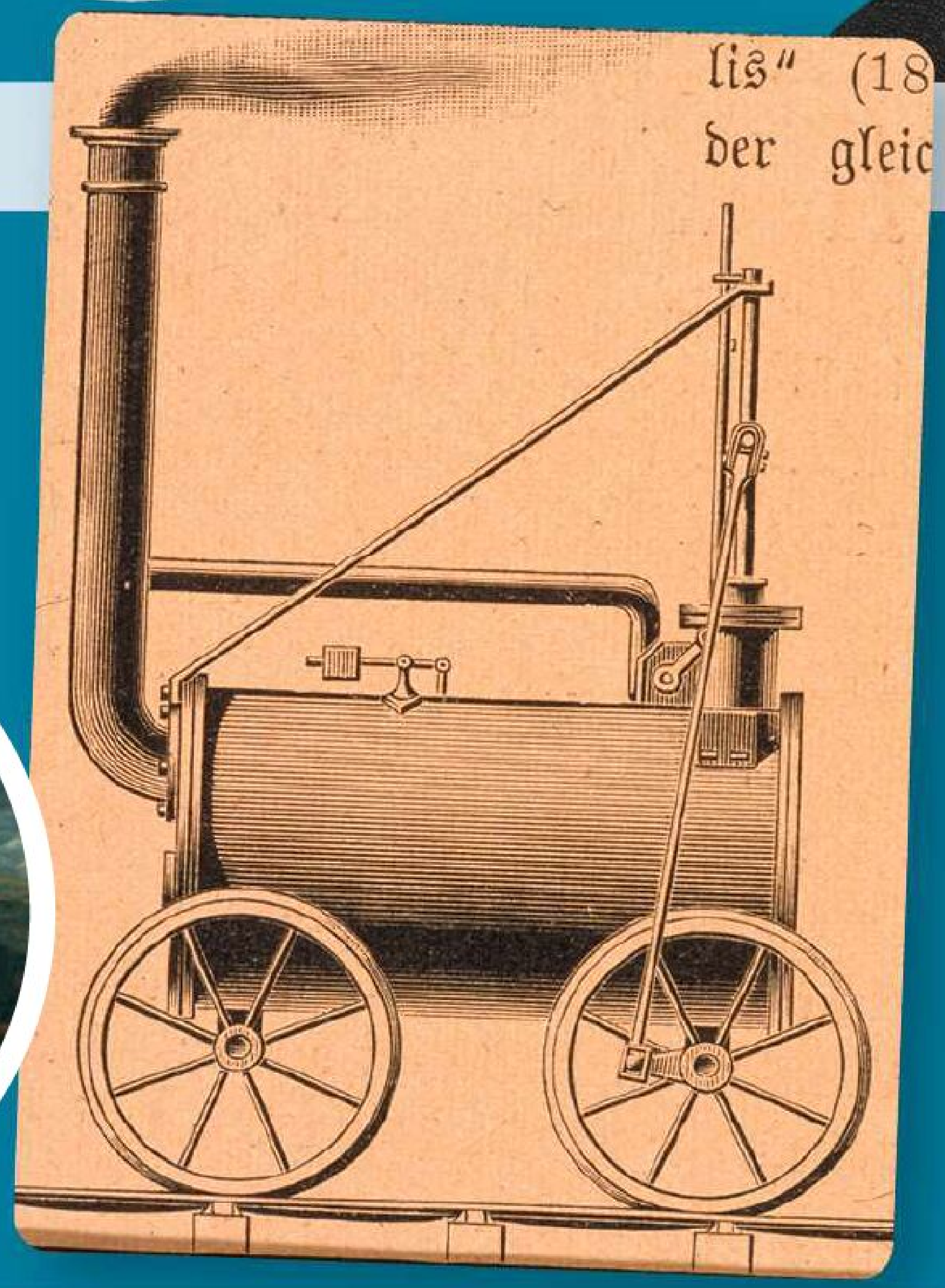
▲ Edmund Cartwright patents the power loom, mechanising the weaving process.

1794

The exhaust pump is introduced by John Buddle to take stale air out of mines. Concerned with underground safety, he is a founding member of the Society for the Prevention of Accidents in Coal Mines.

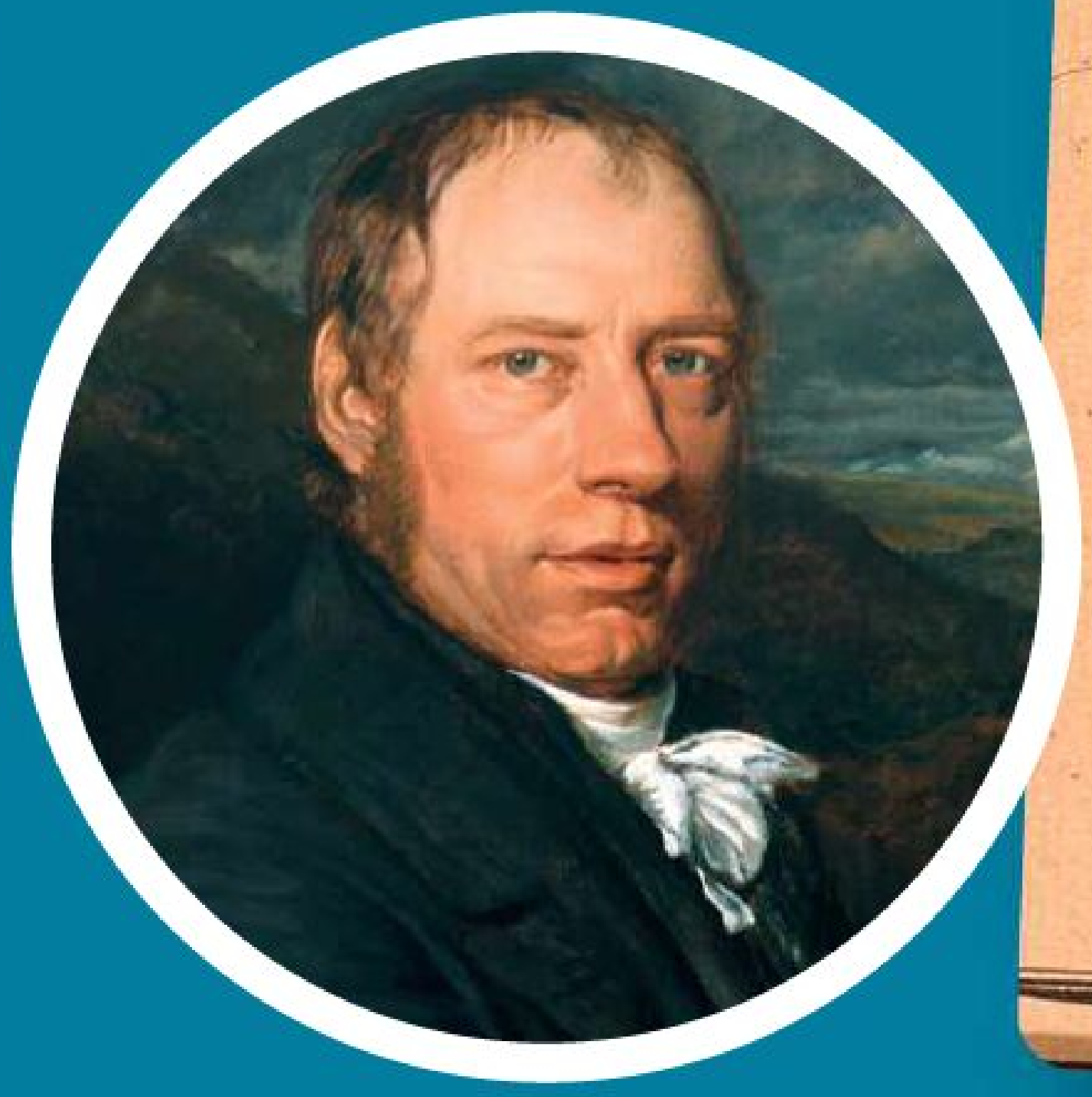
1799–1800

The Combination Acts are passed, prohibiting trade unionist activity and sentencing workers calling for better pay or lower hours to jail or hard labour. The laws are later repealed in 1824 and 1825 following discontent and violence.



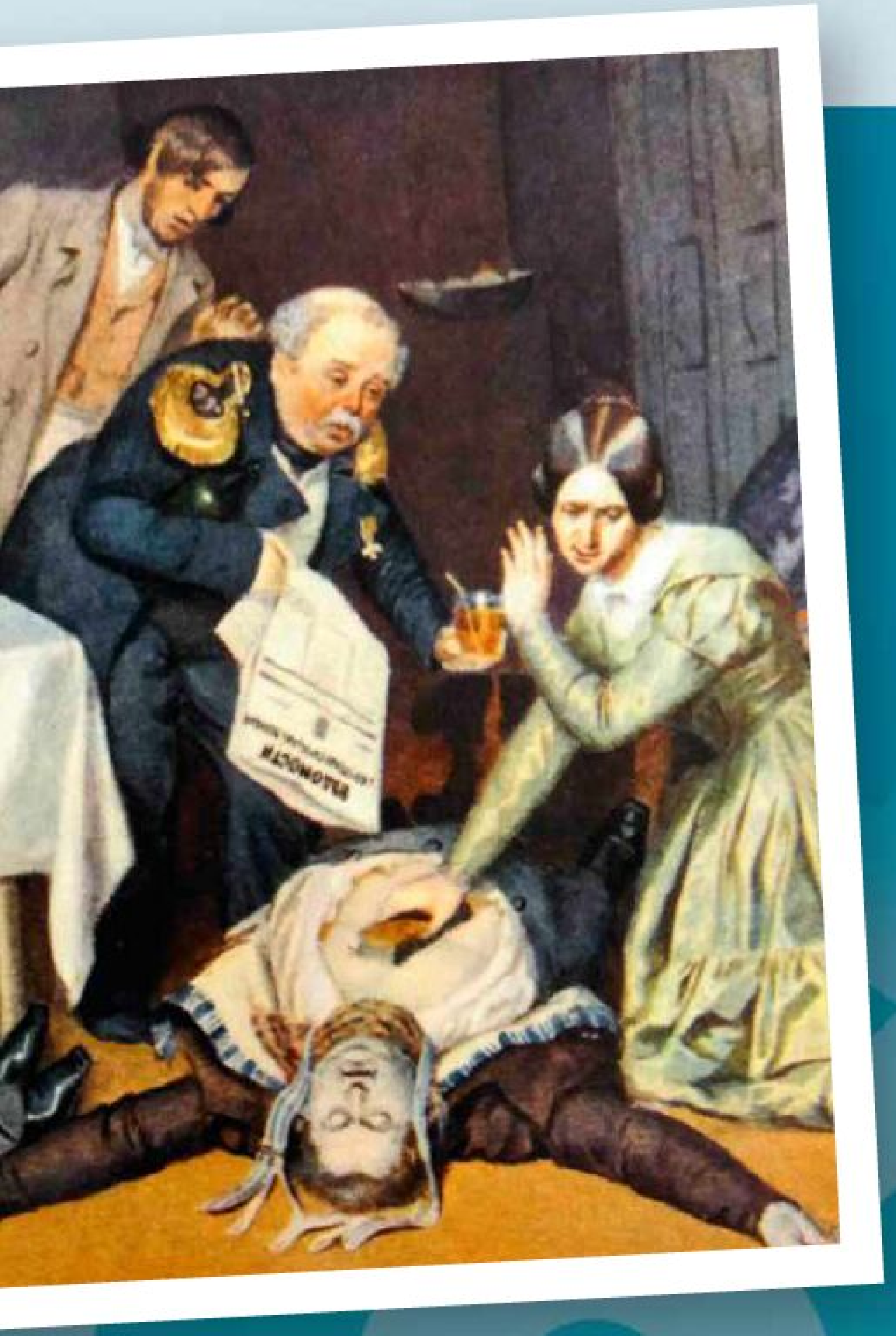
1804

▼ Engineer Richard Trevithick tests the world's first railway steam locomotive.



1811

The Luddites – who are opposed to industrialisation – launch their first major rebellion with riots in Arnold, Nottingham. They break into factories and mills to destroy textile machinery, which they see as a threat to their livelihoods.



1848–49

▼ A devastating outbreak of cholera kills more than 50,000 people across Britain. The spread of the disease is much worse than previous outbreaks due to the large populations now based in the industrial cities.

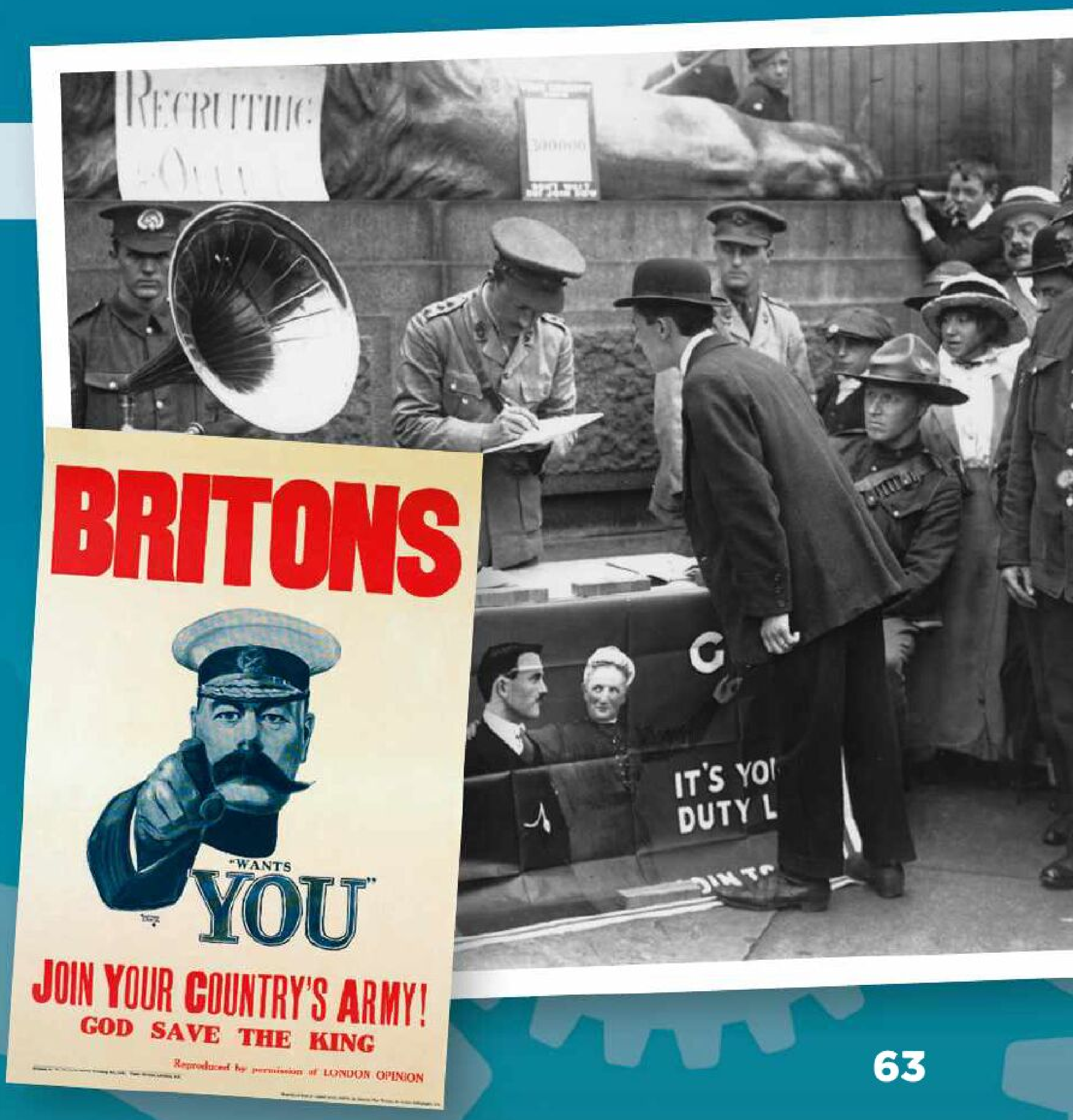
1900

By the turn of the century, around 85 per cent of England's population live in large towns and cities – compared to some 15 per cent in the mid-18th century – many in overcrowded slums.

1914

▶ With Europe now embroiled in World War I, Britain's run as the leading industrial power comes to an end as other countries greatly intensify their own industries. ⊙

WORDS: EMMA SLATTERY WILLIAMS



Bobbin winder girls pictured with their foreman at a mill in Radcliffe, Lancashire, c1915. Textile manufacture dominated northwest England throughout the Industrial Revolution

EVERYTHING YOU WANTED TO KNOW ABOUT THE INDUSTRIAL REVOLUTION

Professor Emma Griffin answers key questions about a period of immense social and economic change in Britain

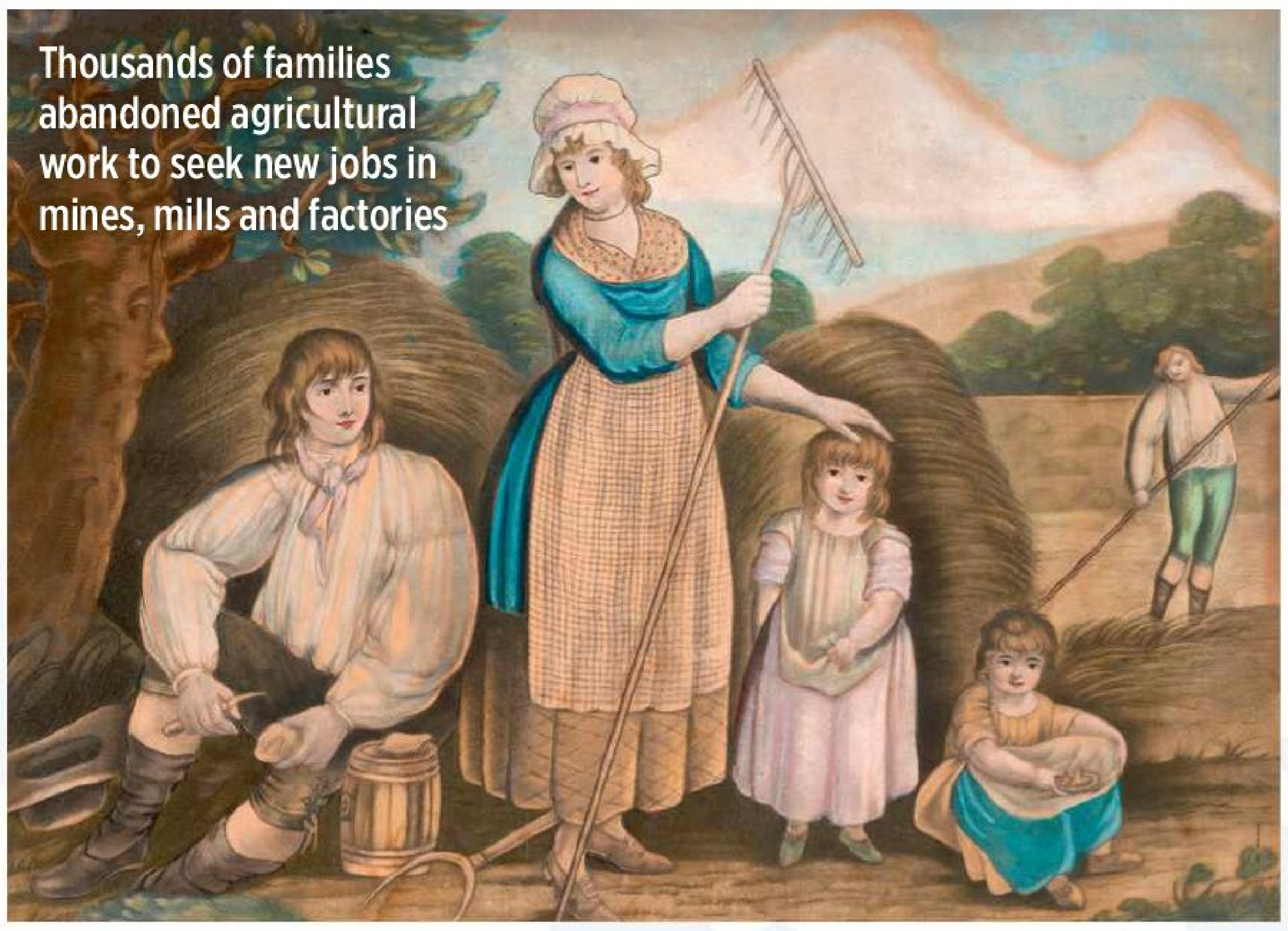
Q: What was the Industrial Revolution?

A: I always preface the answer to this question by saying that historians aren't entirely in agreement about what the Industrial Revolution was, so this is my interpretation.

Prior to the Industrial Revolution, everything in a person's life and all their basic needs came from the land in some way: the houses in which they lived, the food they ate, the clothes they wore. Industrialisation was the process that moved us away from this very intimate connection between our needs and the seasons and the land. It was the switch where we stopped being dependent on our immediate environment and started to consume in a completely different way, and also got the things we needed in a completely different way.

Q: When was Britain's Industrial Revolution?

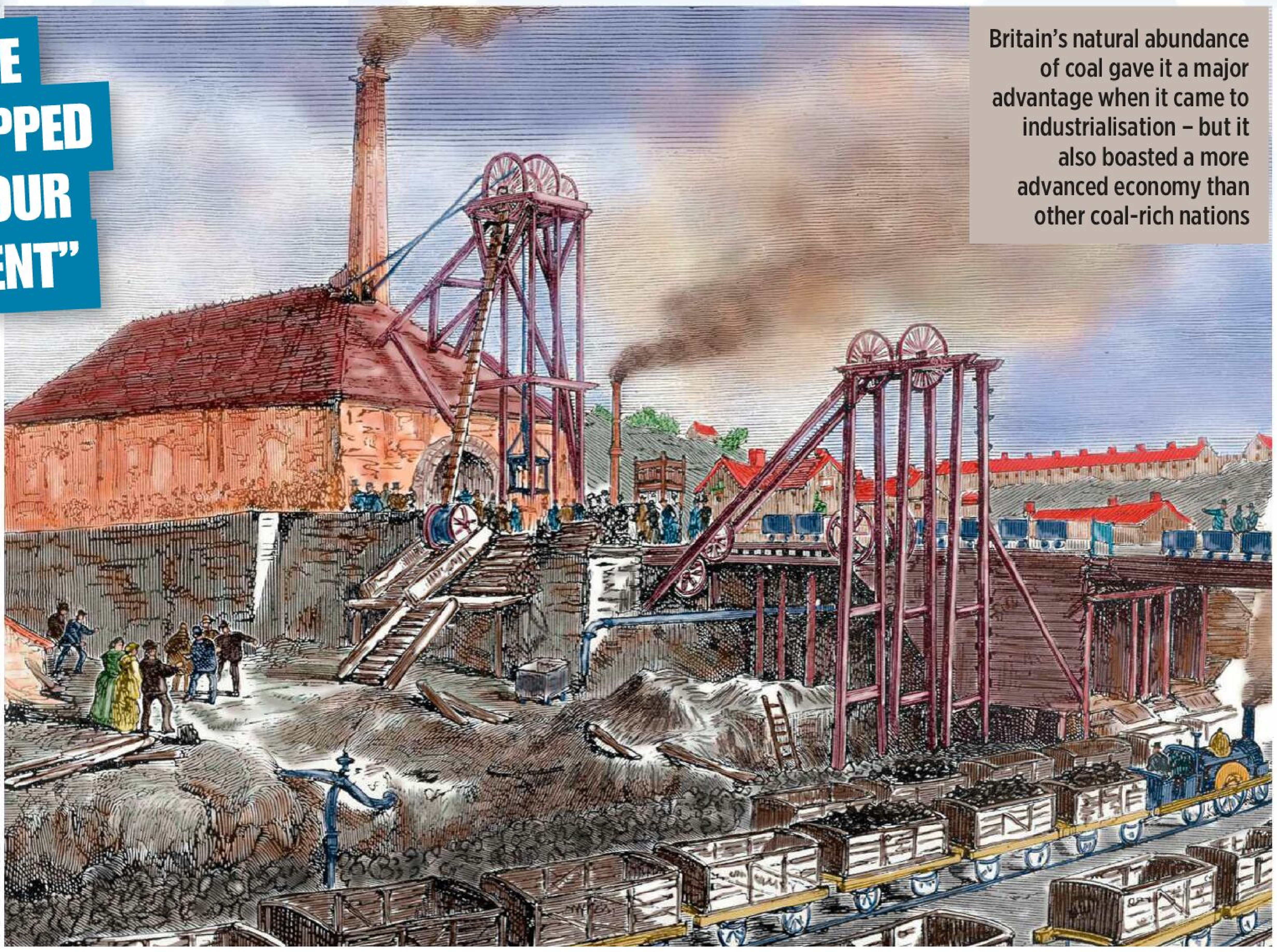
A: Industrialisation was a long, drawn-out process, particularly in Britain, because there was no template. And crucially, nobody knew they were industrialising at the time – even the language associated with the Industrial



Thousands of families abandoned agricultural work to seek new jobs in mines, mills and factories

GETTY IMAGES X2, ALAMY X4

"THE INDUSTRIAL REVOLUTION WAS THE SWITCH WHEN WE STOPPED BEING DEPENDENT ON OUR IMMEDIATE ENVIRONMENT"



Britain's natural abundance of coal gave it a major advantage when it came to industrialisation – but it also boasted a more advanced economy than other coal-rich nations

Revolution came later. But by the late 18th century, Britain was starting to look quite different to other parts of the world, in that machines were being used to do a lot of the making, and things were beginning to be made that weren't local. Cloth, for example, was now being produced by machines using raw cotton fibres imported from overseas.

However, for me, industrialisation really took off when steam engines were used to power the economy, doing the work that was previously performed by humans and animals or by using wind and water power. And you can date that quite accurately. In Britain, steam engines started to spread through transport and industry in the 1820s and the 1830s. So, although the 18th-century origins of industrialisation are important, for me the Industrial Revolution is really a 19th-century phenomenon.

Q: Why was Britain ahead of other countries when it came to industrialising?

A: One of the things that helped Britain was that it had a lot of coal. Many other countries also had a lot of coal, though, so the real question to ask is this: why was Britain so forward in getting the coal out of the ground and then using it to do useful things for us? Many of the inventions of the Industrial Revolution were rooted in the cotton industry, particularly the spinning element of that, which was traditionally done by hand. Gradually, the machines get bigger and bigger, and eventually we end up with these huge factories of spinning machines powered by steam engines. But it's very difficult to be completely clear as to why it happened in Britain at the time that it did.

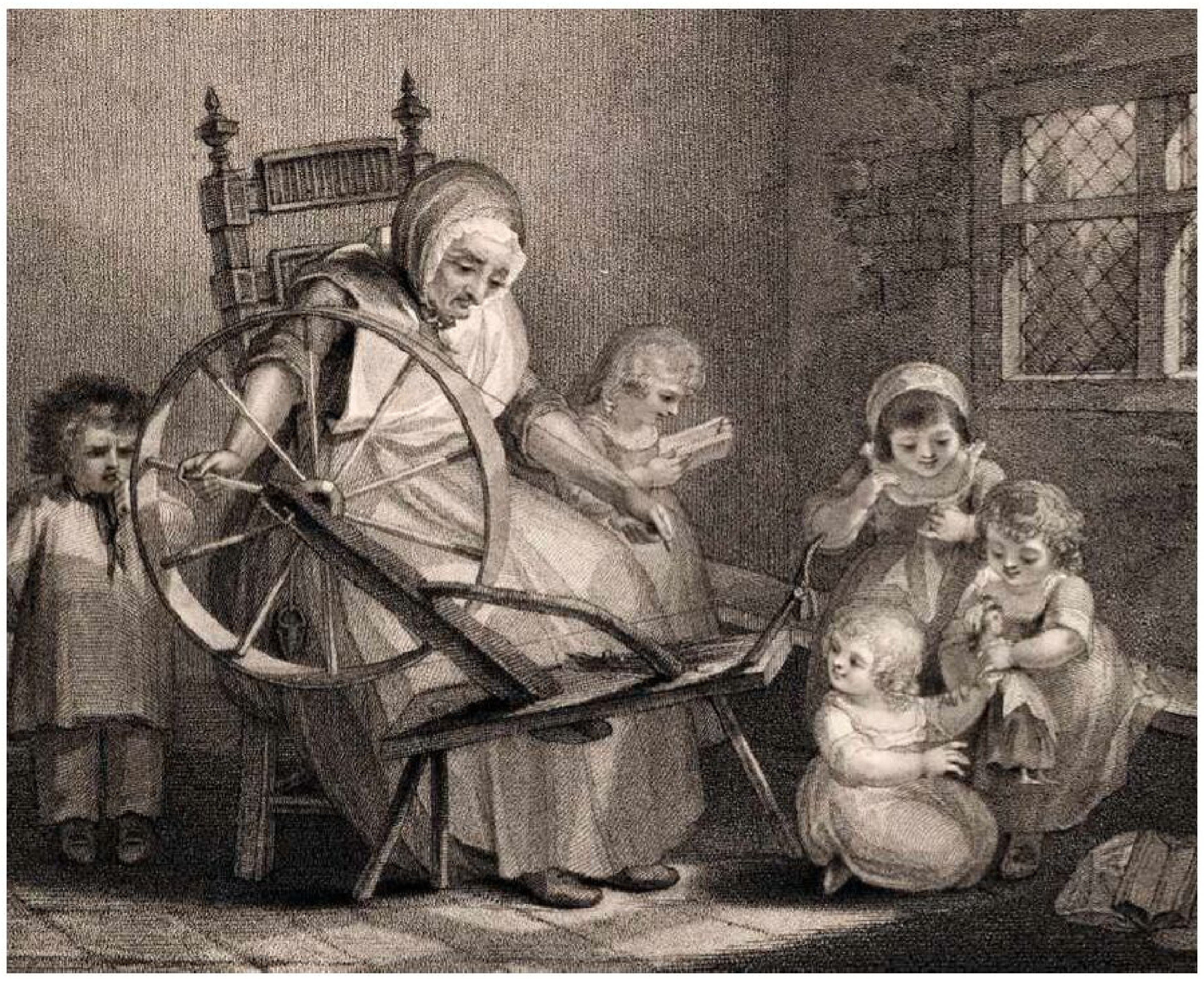
For me, the point is that masses of effort is needed to make that transition from small domestic spinning wheel to large factory, and loads of new technology is needed to do it. But you also need workers to work in these new factories; you need lots of cash running around your economy so that people can build prototypes, experiment and fail; you need banks to lend you the money, and so on. So in many industries, not just in cotton, what you start to see is that the British economy in the 18th century was actually already very sophisticated. And that was quite different to places like India and China at this time, which, despite having really big populations, did not have very developed economies.

It's difficult, then, to say what the silver bullet was for Britain. The reality is that it was a very, very long process and a lot of groundwork had to be laid down before industrialisation really took off.

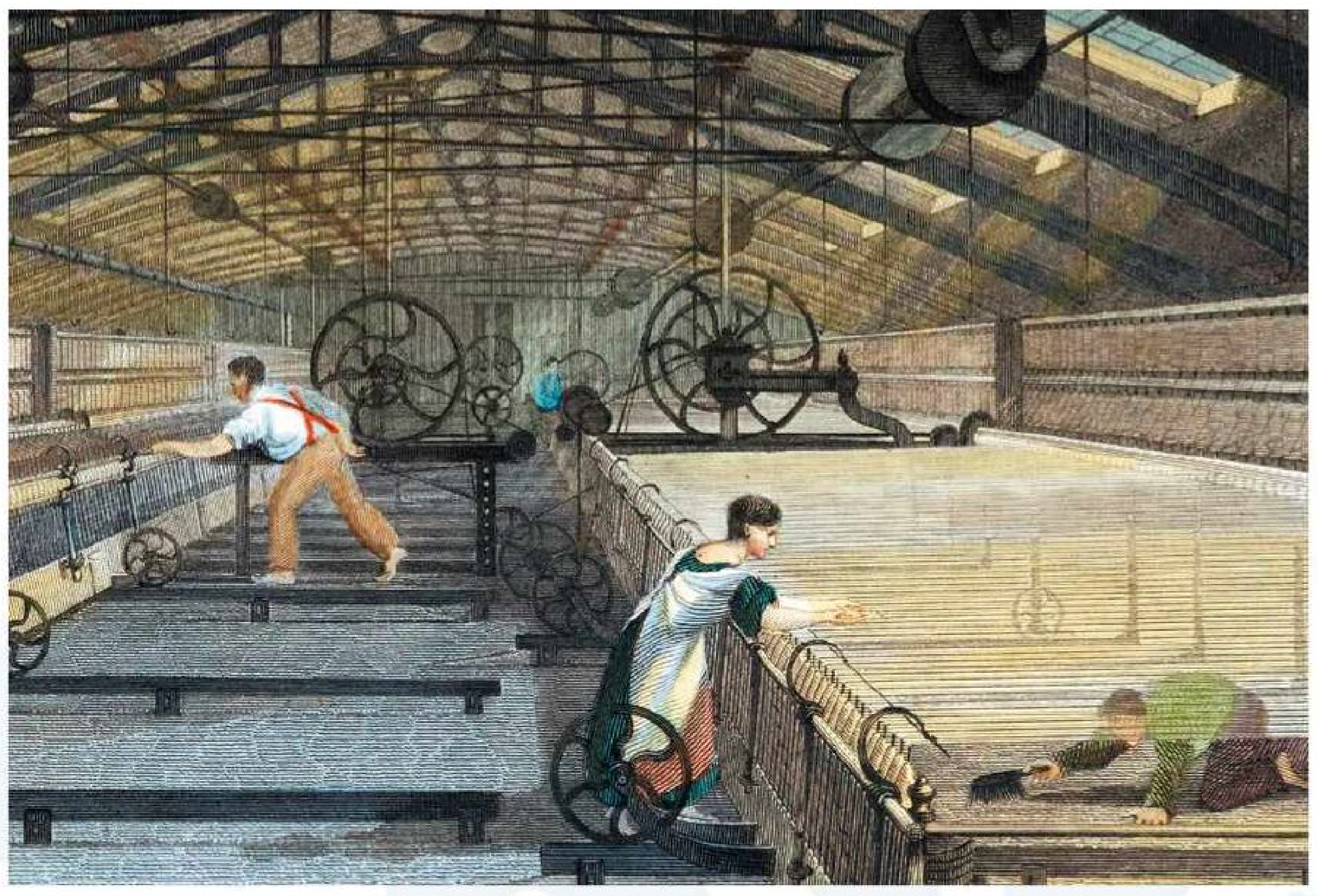
Q: Whose lives were most changed by the Industrial Revolution?

A: Your life would have changed much more acutely if you were living in an area that was close to the heart of the Industrial Revolution: Manchester, Lancashire, Newcastle and in the Scottish Lowlands near Glasgow. You would have also been affected if you were living near the coalfields, where new factories were emerging.

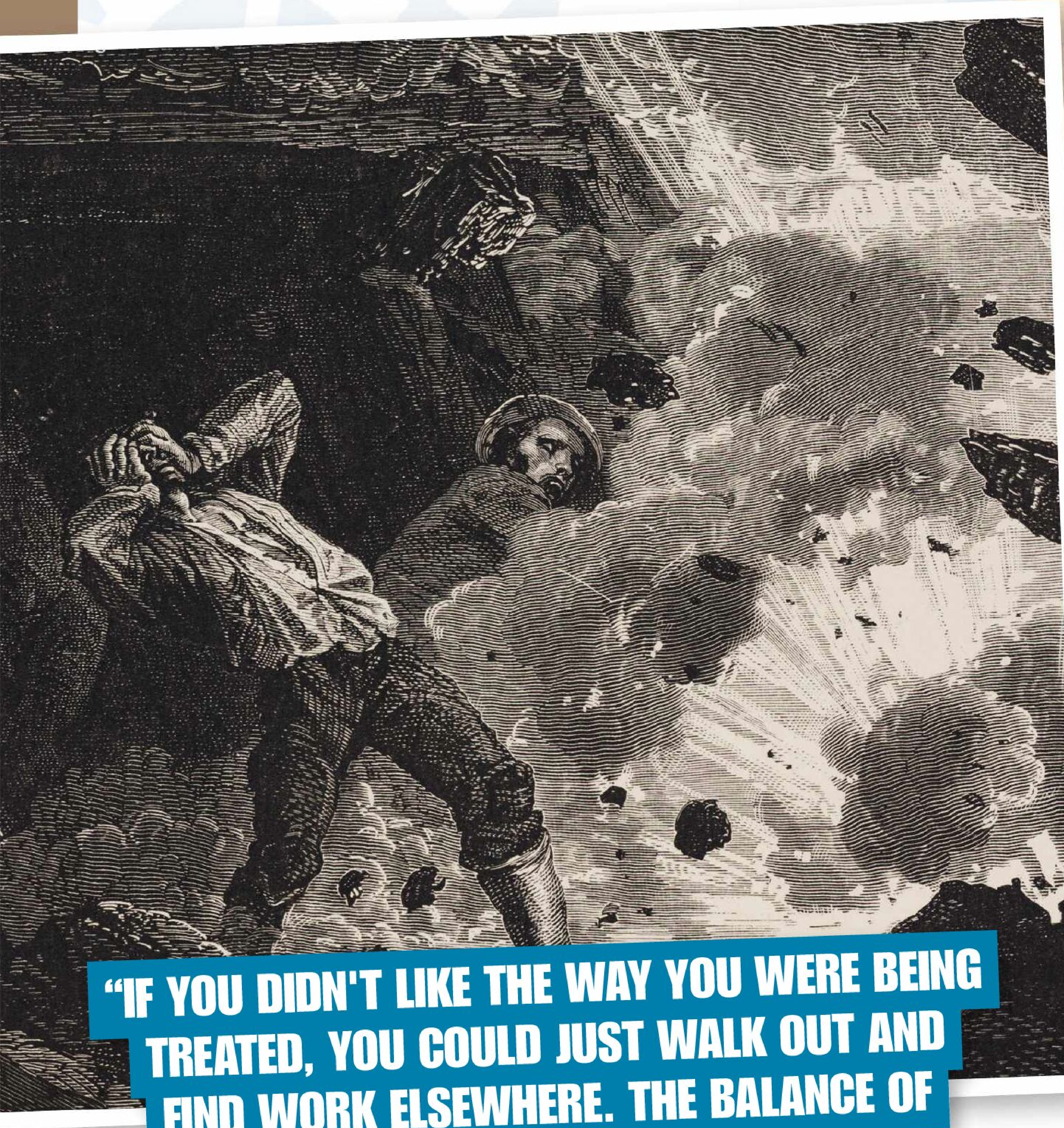
But what I think is very interesting is the way it affected men and women's lives. Before industrialisation, many people struggled to make a living, and the household worked as a unit. Men typically worked for wages and women usually did the domestic work and food preparation. In a time before ready meals and refrigeration, work in the home was very laborious and time consuming and was therefore seen as being of ▶

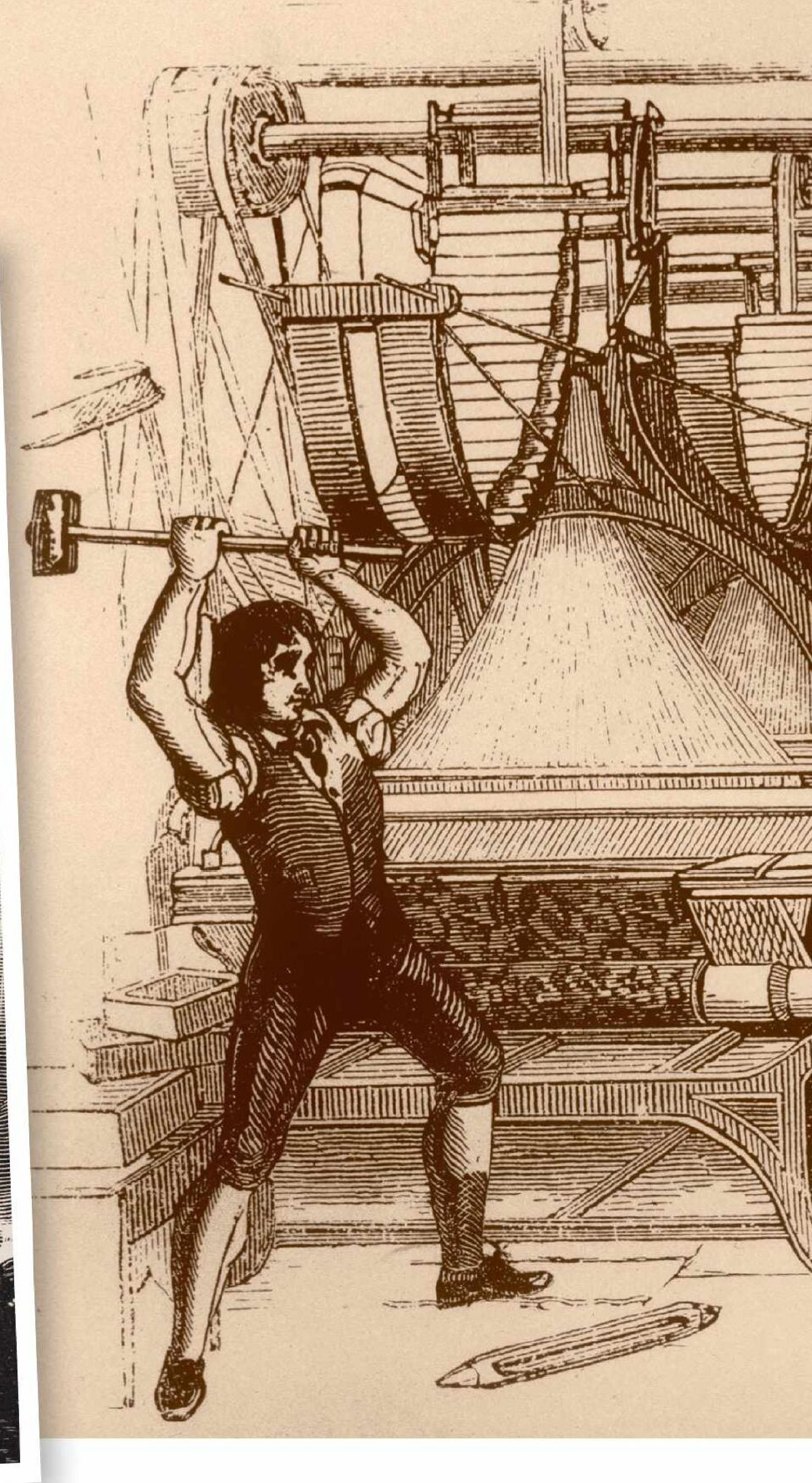


Work that had formerly been carried out at home using small, domestic spinning wheels could now be replicated in factories on a much larger scale



Textile workers operate spinning mules while a child (*far right*) sweeps beneath the threads in an image from c1830





“IF YOU DIDN'T LIKE THE WAY YOU WERE BEING TREATED, YOU COULD JUST WALK OUT AND FIND WORK ELSEWHERE. THE BALANCE OF POWER WAS UPENDED”

◀ high value. And because wages were low, there was an equivalence between domestic work and wage work, and the feeling that everyone was doing what they needed to do to survive.

One of the consequences of industrialisation, however, was the advent of well-paid waged work, particularly for men, which had the potential to upset the family unit. The man of the house could now earn something that was of much more value than perhaps their wife could provide, and as time went on, gas, electricity and water could be also piped directly into the home. As such, domestic work became devalued.

So, for me, one of the really significant changes was that families could become much more hierarchical, and there was far more of a diversity of experience among working people than there had been before. Society became more unequal, with some working people able to do well and become quite successful, and others completely left behind.

Q: How did wages vary across the different roles?

A: It varied across Britain, of course, but in the early 19th century, a typical weekly wage for a rural worker might be around 10–11 shillings. A coal miner might easily be able to earn double that. One of the main differences, though, aside from the headline rate of pay, is that some of this new well-paid work was available for women in factories. And that was a real novelty. It was usually only available to childless women, so that did limit numbers significantly, but a woman working in a factory might be on 12–13 shillings a week, and there are examples of working women earning a wage greater than their father had ever earned.

Another important thing to note is the sheer amount of work that industrialisation created. Where previously, there might have not been enough work to go around a village (and people were grateful for what they managed to get), there were now jobs in abundance. If you didn’t like the way you were being treated, you could just walk out and find work elsewhere. So the balance of power between worker and employer was really upended.

ABOVE LEFT: **Coal mines were dangerous places to work, with fatal explosions all too common. Discontent over lacklustre safety measures was a key reason workers began to unionise as the 19th century progressed**

ABOVE RIGHT: **Although bands of ‘Luddites’ famously destroyed machinery in protest against mechanisation, most workers were happy to take on factory jobs, as they were better paid**

Q: What were workers’ conditions like during the Industrial Revolution?

A: Conditions in the workplace were horrific: the hours were very long and there was no concept of health and safety. Machines weren’t fenced in, and if someone did suffer an injury at work, they would usually be blamed for being careless. And it was the same on the railways and in the mines – very dangerous working conditions. But it was at that moment, with this kind of modern industrial work, that workers started to unionise and campaign for their rights.

Q: How prevalent was resistance to industrialisation from workers?

A: There wasn’t actually a lot of resistance from workers. There are well-known cases like the Luddites [bands of English workers

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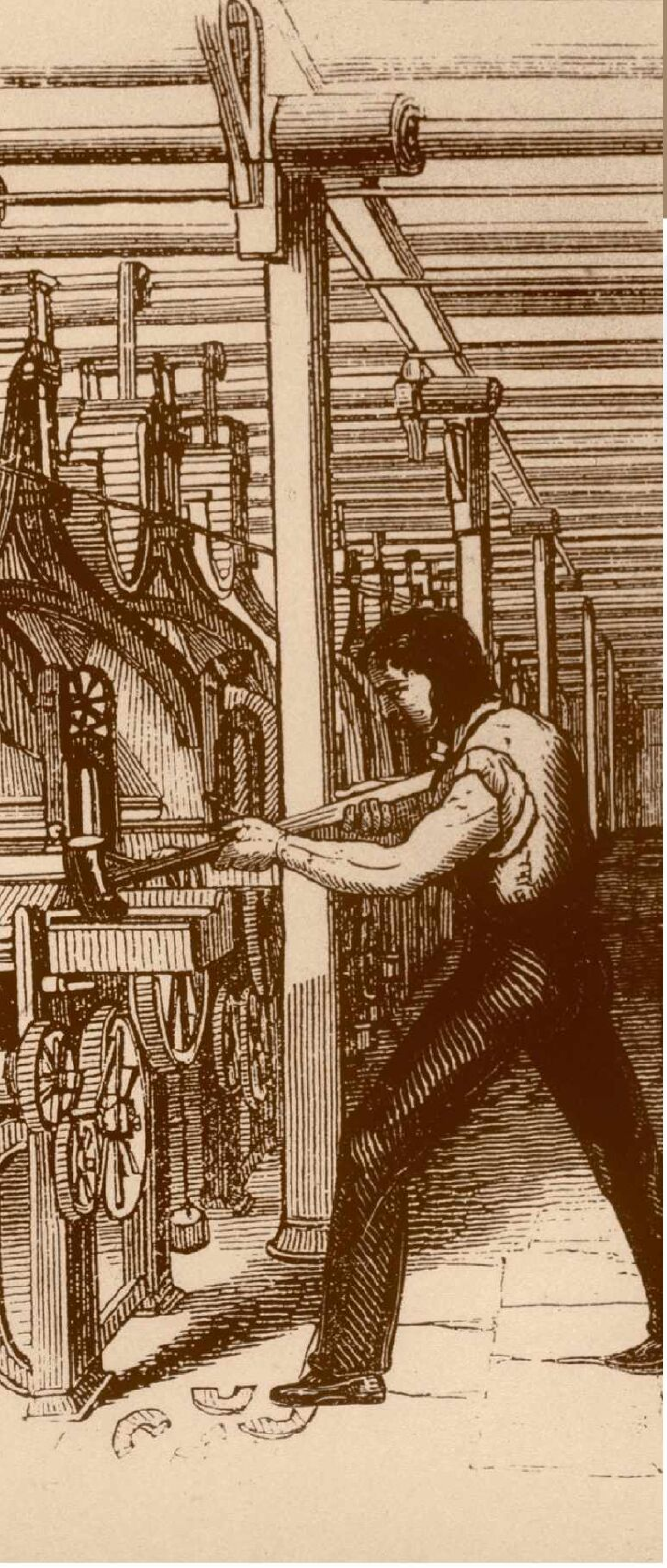
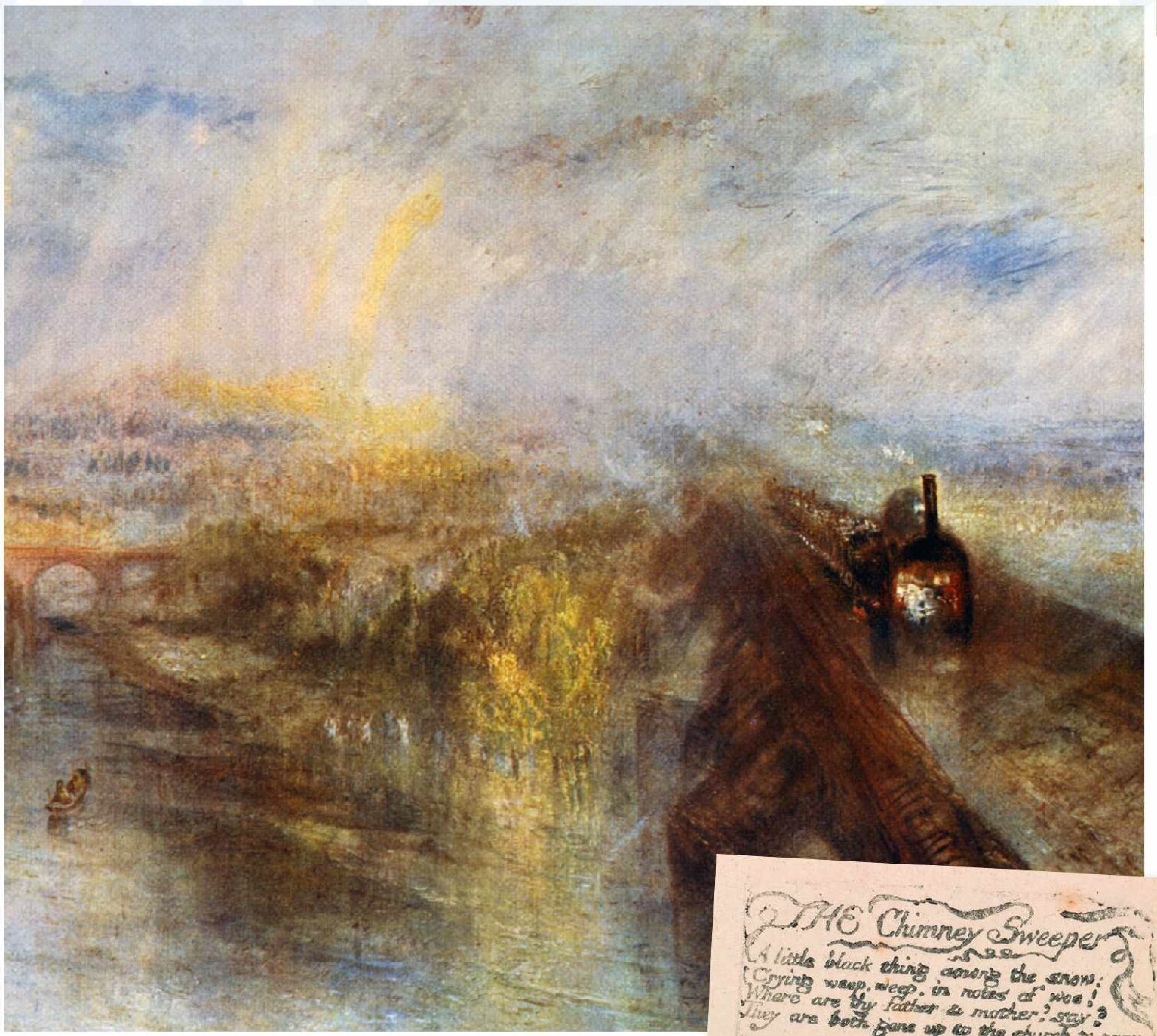
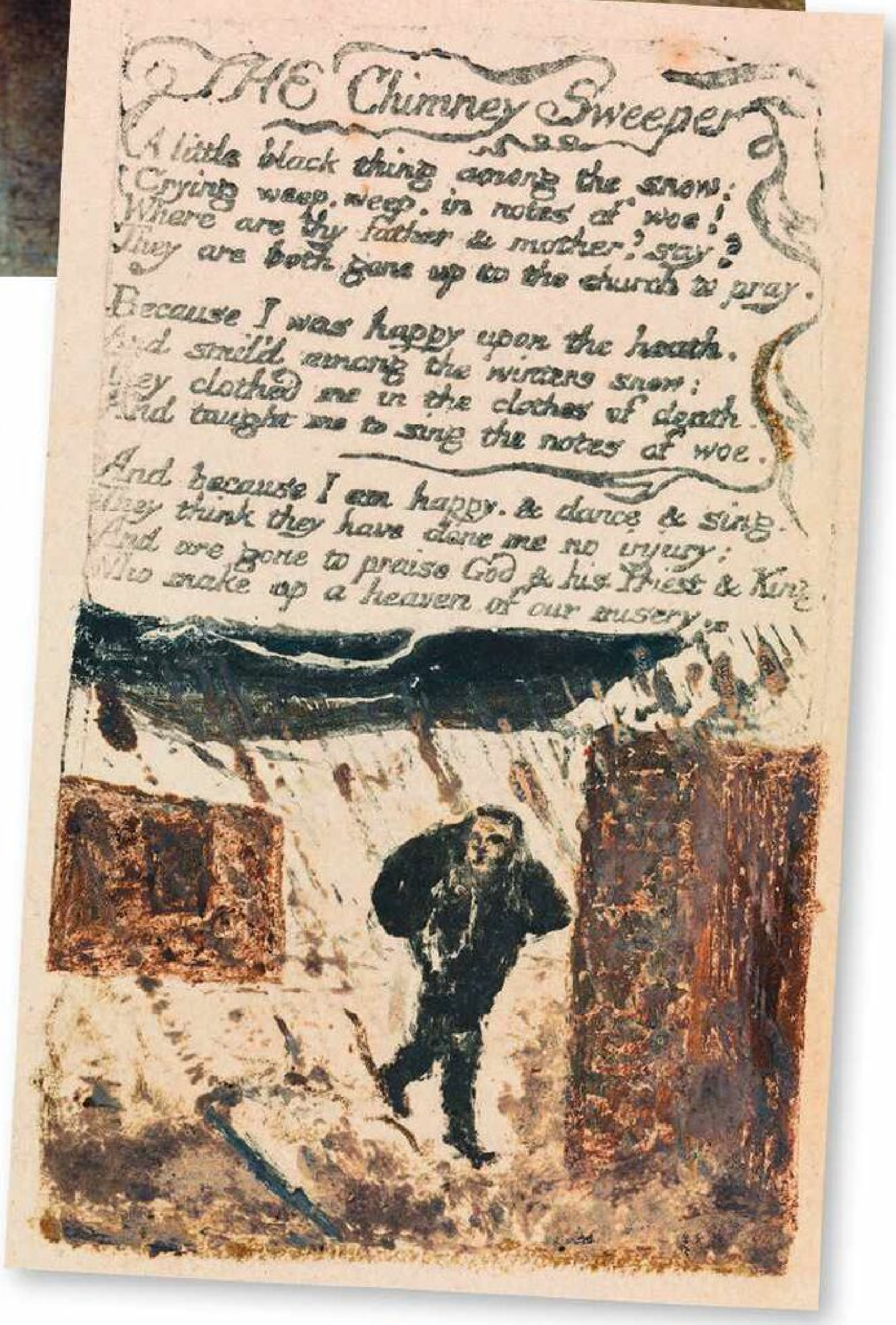






THE Chimney Sweeper
A little black thing among the snow:
Crying weep. weep. in notes of woe!
Where are thy father & mother? say?
They are both gone up to the church to pray.

Because I was happy upon the heath.
And smil'd among the winters snow:
They clothed me in the clothes of death.
And taught me to sing the notes of woe.

And because I am happy. & dance & sing.
They think they have done me no injury:
And are gone to praise God & his Priest & King
Who make up a heaven of our misery.

ABOVE: **The period provided rich source material for artists such as JMW Turner, whose *Rain, Steam and Speed – The Great Western Railway* (1844) shows new technology literally hurtling forwards towards the viewer**

RIGHT: **William Blake's 1794 poem, *The Chimney Sweeper*, decries child labour and the conditions faced by young workers**

in the early 19th century who destroyed machinery, believing that industrialisation was threatening their livelihoods], but the jobs that involved machines tended to pay higher wages. So you often find that workers were initially happy to leave their lower-paid jobs and move to these new areas, but once they were there that's when they started to become agitators. They weren't resisting factories and the idea of mechanisation itself; it was the appalling working conditions that led them to advocate for change.

There's very little evidence, though, of workers returning to their rural jobs after leaving them for industrial work; they almost never went back. However unpalatable the city work was, there was something about it that was more attractive than the rural work.

Q: How was the Industrial Revolution portrayed in the art and literature of the period?

A: I often look at sources and records that have been written by working-class people who worked inside the factories, and they tend to be quite positive about their experiences. At the same time, most of the people who were producing art, literature and poetry were not the people working in the factories – they were the educated, middle-class elite.

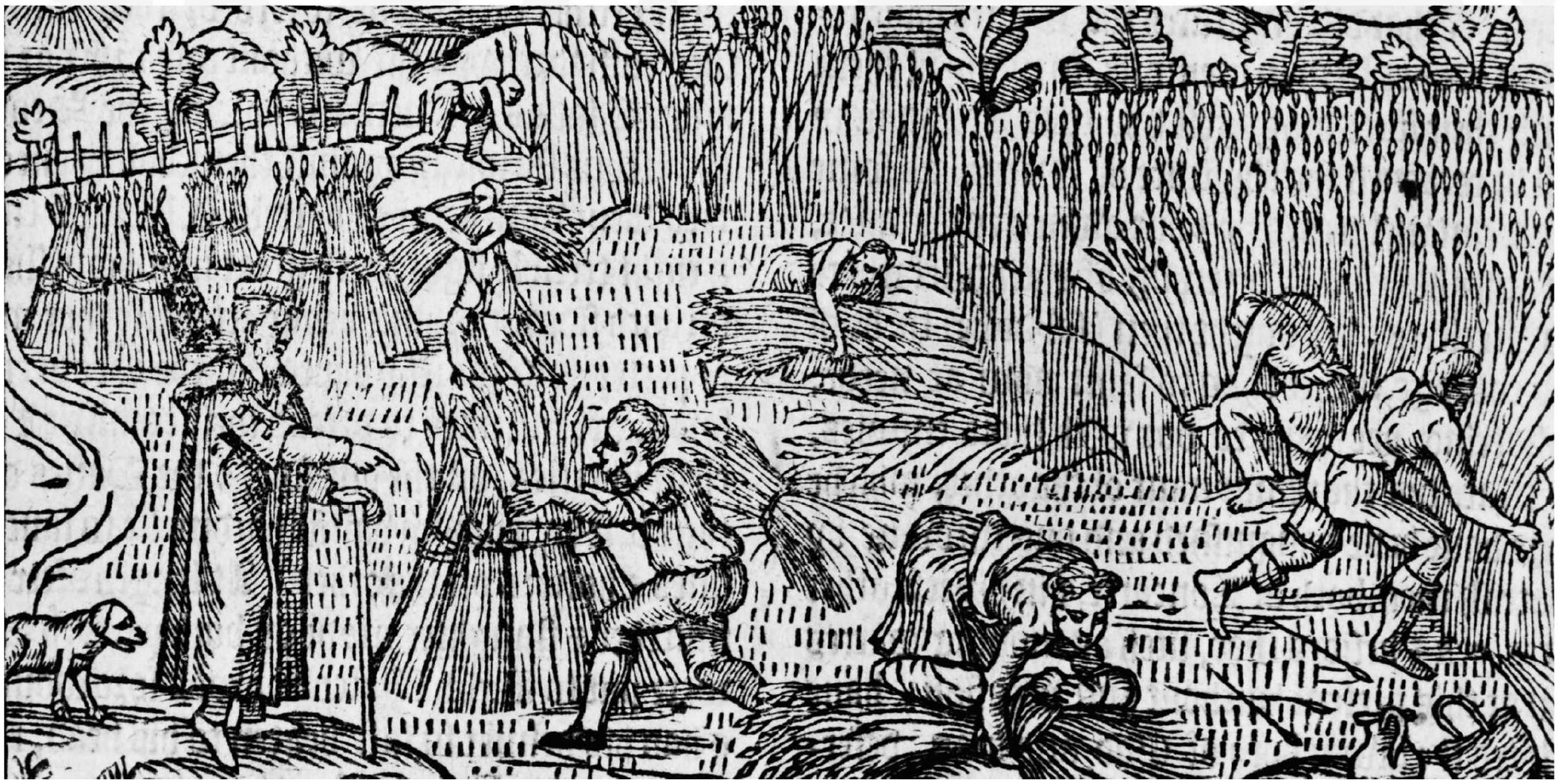
So, a very different version of the Industrial Revolution emerges from those kinds of records. Artists, poets and writers tended to be very doubtful and sceptical about industrialisation. They viewed it as a dangerous development and were particularly concerned about the squalor of the cities, the smoke, and the possible dehumanisation that might come from working to the rhythm of the machine rather than the natural cycles of the planet.

Q: What, for you, is the most common misconception about the Industrial Revolution?

A: That the Industrial Revolution was a bad thing. For some reason, we, as a society, hold on to the idea that industrialisation was bad, that it was dislocating, and that it was particularly damaging for the workers. There is some truth to that, of course. There were some people for whom it was very bad; for children of five or six working very long hours every day, for example. I don't want to sugar-coat that aspect of it, but I don't believe it was bad for all poor working people. It was a time of winners and losers – and some of those winners were the working people themselves. ⊙

INTERVIEW: ELLIE CAWTHORNE

EMMA GRIFFIN is professor of British history at Queen Mary University of London. She is the author of five books, including *Bread Winner: An Intimate History of the Victorian Economy* (Yale University Press, 2020)



BEFORE THE REVOLUTION

Industrialisation changed the very fabric of British society, transforming small-scale textiles into big business

When we boil the kettle in the morning, drive in our internal combustion engines along tarmacked roads, sit in our heated homes or offices, and turn on our computers – giving us instant access to a highly networked world – we are doing things made possible by the wave of industrialisation that swept Britain from the mid-18th century. The fall of the Roman empire, the Reformation, and the Renaissance have all been put forward as some of the major turning points in human history. While unquestionably true, in terms of transforming the way that billions of humans experience life today, surely none can match the Industrial Revolution.

There is a saying that the past is a foreign country. If that's the case, Britain before the Industrial Revolution would have been on the other side of a vast and distant ocean. But what did life look like on the other side of that ocean? What powered the nation's economy, and how did people put food on the table in the centuries before mass industrialisation?

For the vast majority of the residents of the British Isles, the one and only source of their food was the land on which they lived. Today, more than four out of five Britons have set up home in a city. Back in the 16th century, as many as nine out of 10 lived in rural communities, often growing crops and tending livestock to feed themselves and their families, not to trade or sell. Few travelled beyond the villages in which they lived.

MOUTHS TO FEED

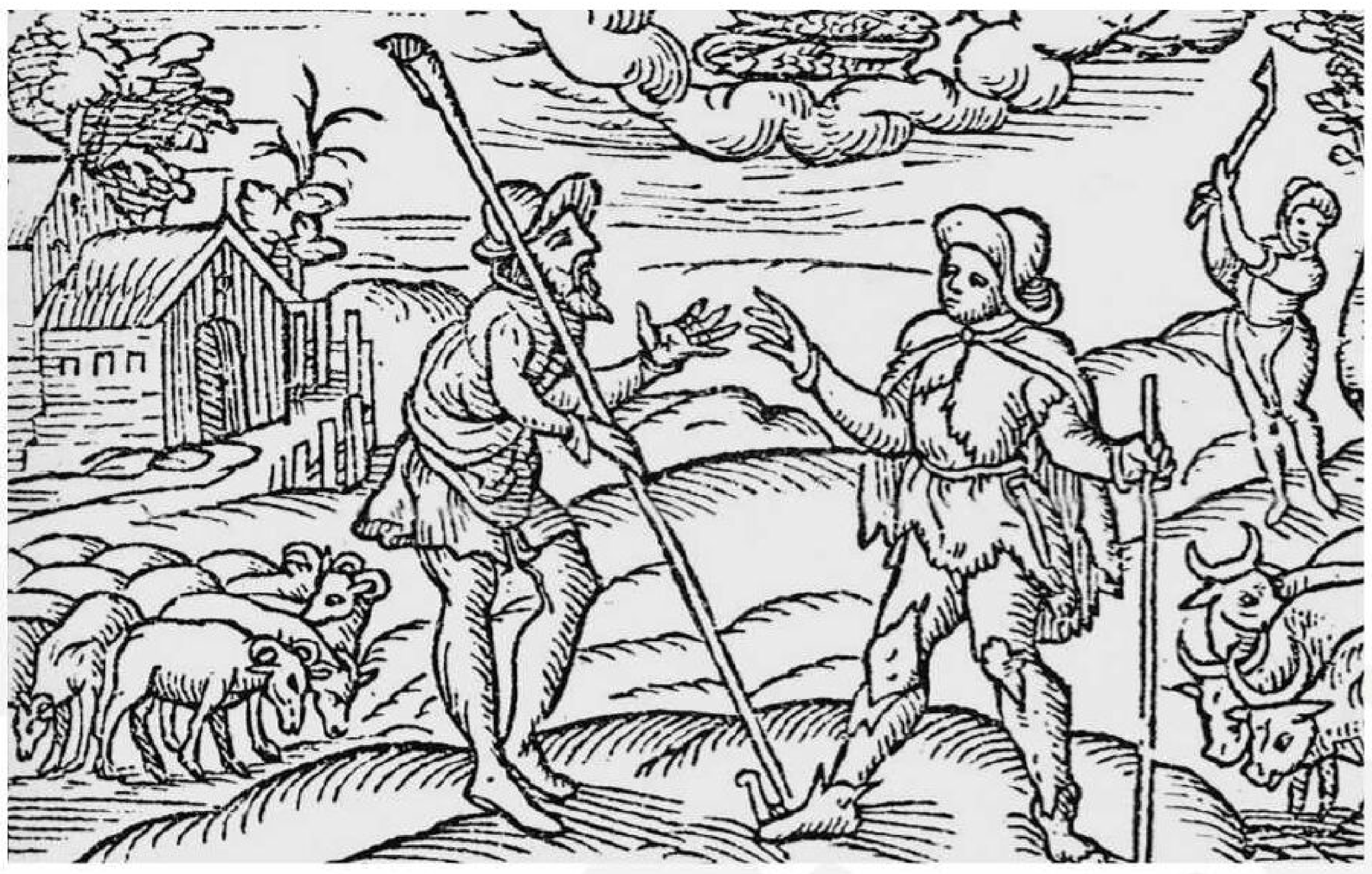
In the late medieval period, many of these villages were divided up equitably, with all members of the community entitled to farm the best land. Then in the Tudor period, cracks began to appear in this system as wealthier farmers increasingly bought up large tracts of land and barred anyone else from accessing them. Life was tough enough for subsistence farmers in pre-industrial Britain. For many, the enclosure of land, as this practice was called, made it more precarious still.

Never was it more precarious than the 16th century, a period that witnessed crippling waves of poverty. Between 1500 and 1650, the population of England more than doubled from 2.5 million to 5.6 million. That equated to a lot more mouths to feed, and the country's agricultural economy simply couldn't keep up. Grain prices rose far faster than average wages, and for thousands of people the prospect of starvation was nothing more than a poor harvest away.

So when those poor harvests duly hit – most notably from 1594–97 – the

ABOVE: **Before the Industrial Revolution, people tended their own crops to survive**

BELOW: **The economy in Tudor times relied on a thriving sheep population for wool**



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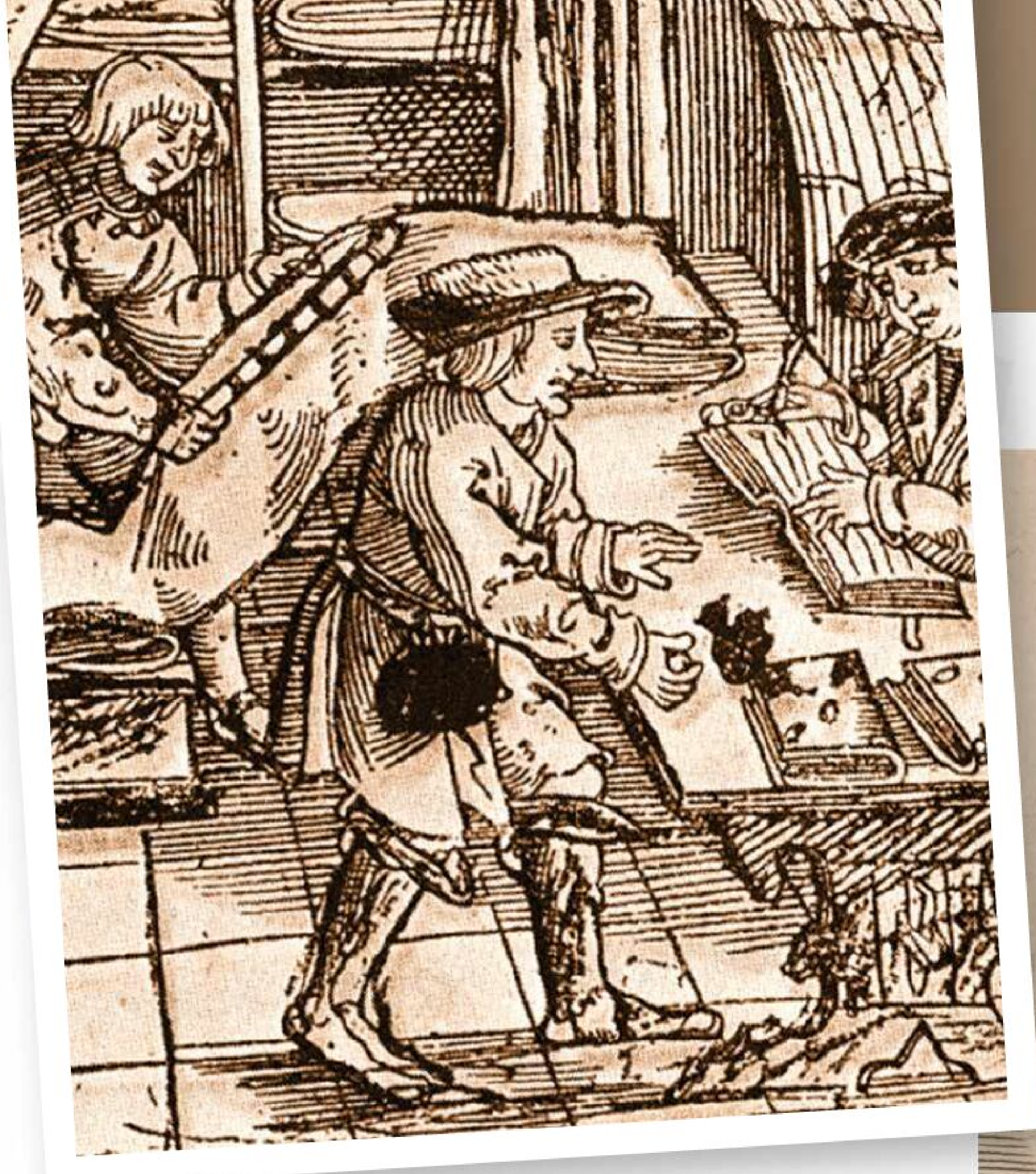
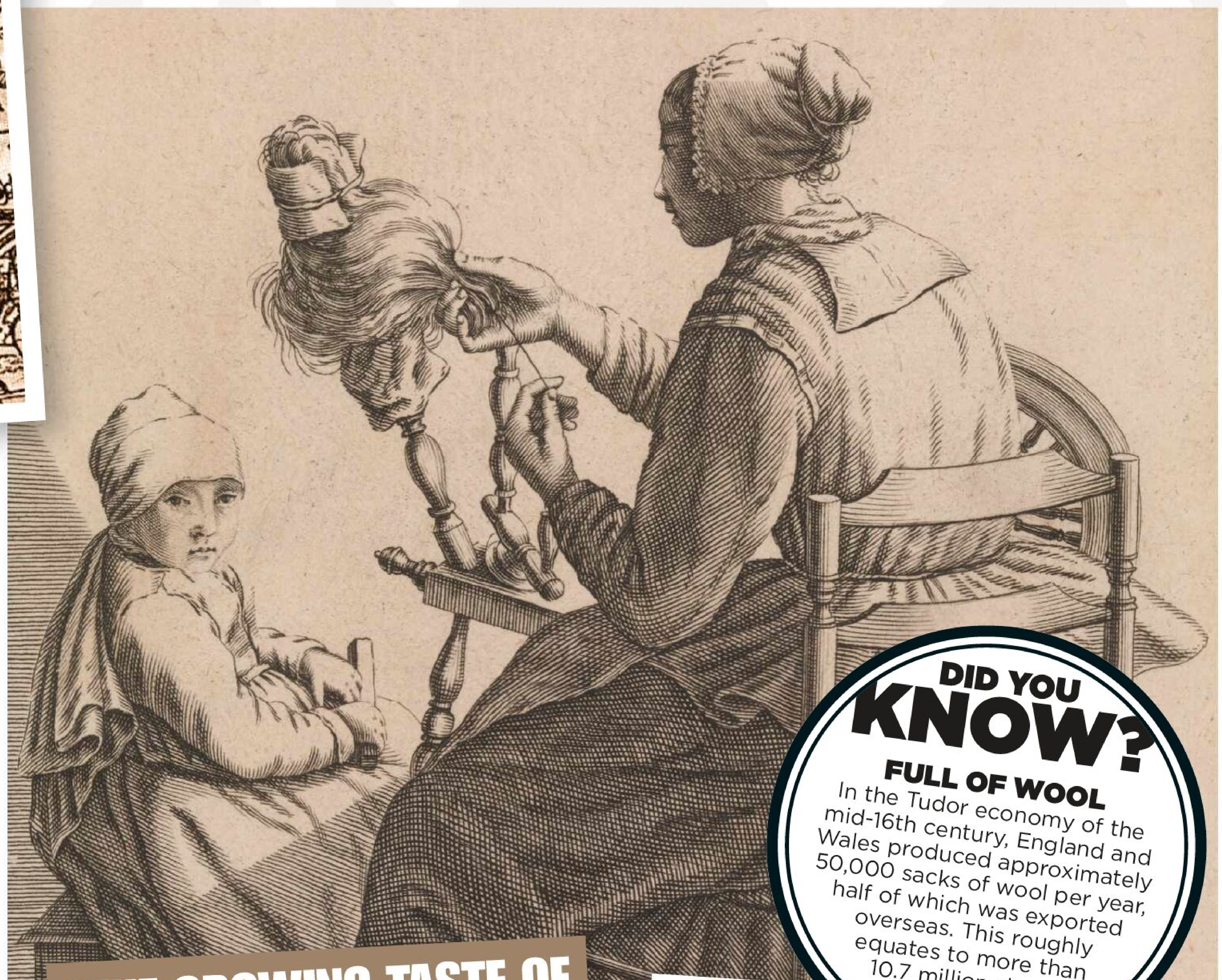
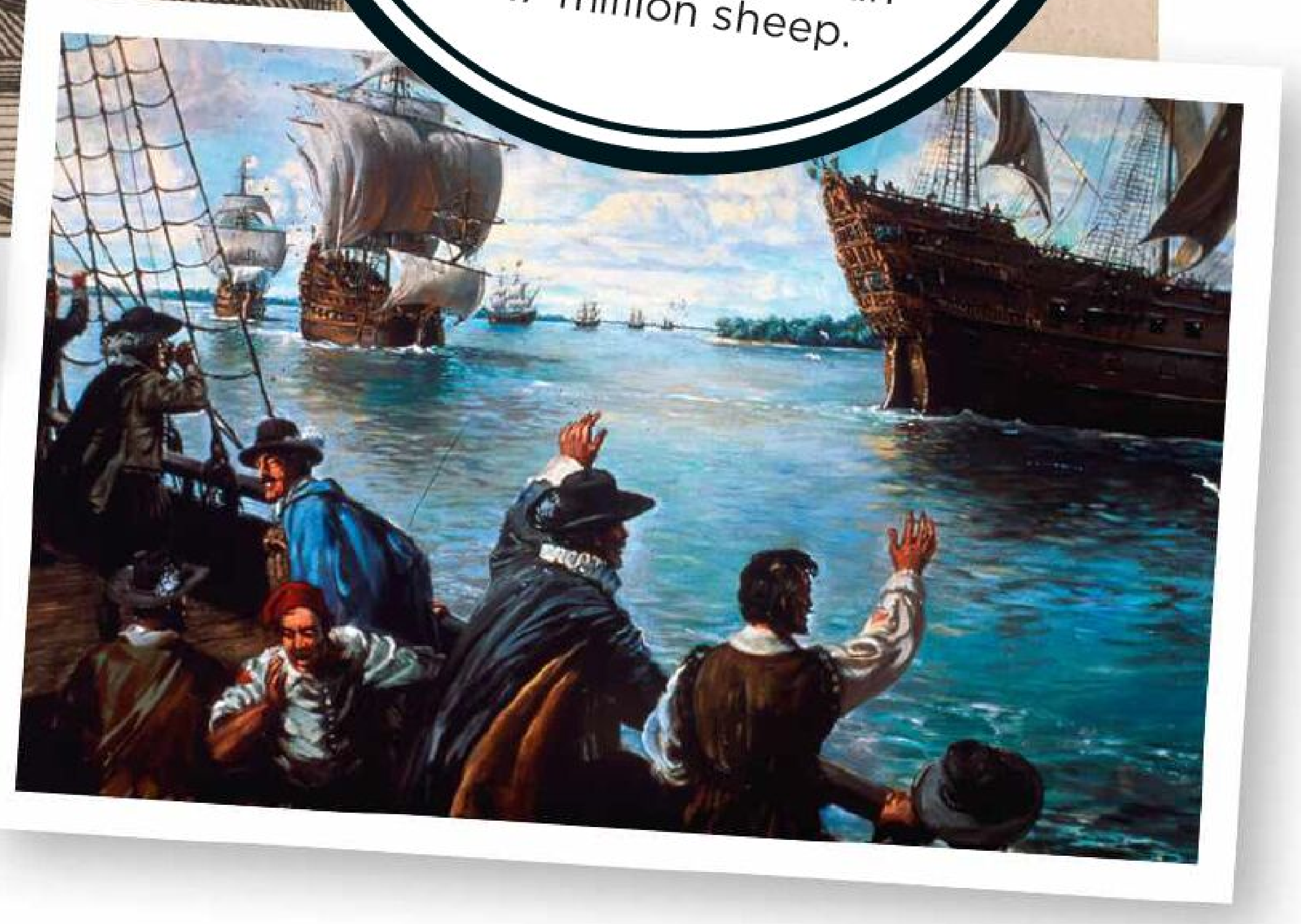






TOP LEFT: **A woodcut of a cloth-making shop – a lucrative business in the 16th century**

ABOVE: **Making textiles before the revolution involved spinning by hand in the home, in what were called cottage industries**

ABOVE RIGHT: **A range of new commercial opportunities emerged thanks to goods being shipped to and from the colonies**

DID YOU KNOW?

FULL OF WOOL

In the Tudor economy of the mid-16th century, England and Wales produced approximately 50,000 sacks of wool per year, half of which was exported overseas. This roughly equates to more than 10.7 million sheep.

> “THE GROWING TASTE OF DOMESTIC CONSUMERS FOR PRODUCTS SUCH AS SUGAR AND TOBACCO LINED THE POCKETS OF MERCHANTS”

suffering was almost unimaginable. Parish registers from the time paint a bleak picture of what the poorest in society endured in these barren years. The register for Kendal in Westmorland suggests that around 50 parishioners were buried in December in 1596 – compared with a monthly average of just 20 in 1595. Yet the worst was still to come: in March 1597, the death toll reached 70.

In the face of such deprivation, it wasn’t long before society’s fabric began to fray. In September 1596, Edward Hext, a justice of the peace in Somerset, reported a spate of thefts, mostly carried out by vagrants. He complained that there had been food riots, with rioters declaring that “they must not starve, they will not starve”. Class hatred was also beginning to take hold, he wrote, with the poor declaring that “the rich men have gotten all into their hands and will starve the poor”.

COTTAGE INDUSTRIES

But the pre-industrial period wasn’t just a story of hardship and hunger, of plague and penury. Though England may not yet have been an industrial powerhouse, it was certainly an exporting one. And the product that overseas consumers craved most was wool. The trade was a cornerstone of the Tudor economy – and this was reflected in the number of sheep that populated its countryside. In fact, so large did the nation’s flocks grow (Sir Henry Fermor of Norfolk is reported as owning 15,500 sheep when he died in 1521) that the government attempted to place size limits on them.

By the time Sir Henry breathed his last, the wool trade had spawned another lucrative industry: cloth making. This saw raw wool being weaved at home and exported as cloth. Now, villages were bustling with spinsters spinning wool into yarn, and websters operating small hand looms in their own cottages.

Cloth making was a success story economically, and it wasn’t the only one. Pre-industrial Britain was a patchwork of these thriving ‘cottage industries’, with different regions specialising in different products: from metal production in the Midlands to coal mining in the North East. In the cities, artisans and craftsmen employed apprentices.

Though these were often small and domestic operations, they were increasingly driven by wide-scale, international factors – one of which was colonialism. The establishment of colonies in the Americas opened up new market goods with consumers buying up everything from pickled pork to wheelbarrows. Meanwhile, the growing taste of domestic consumers for products such as sugar and tobacco, which were invariably harvested in the colonies by enslaved people, lined the pockets of merchants operating in booming ports such as Liverpool and Bristol.

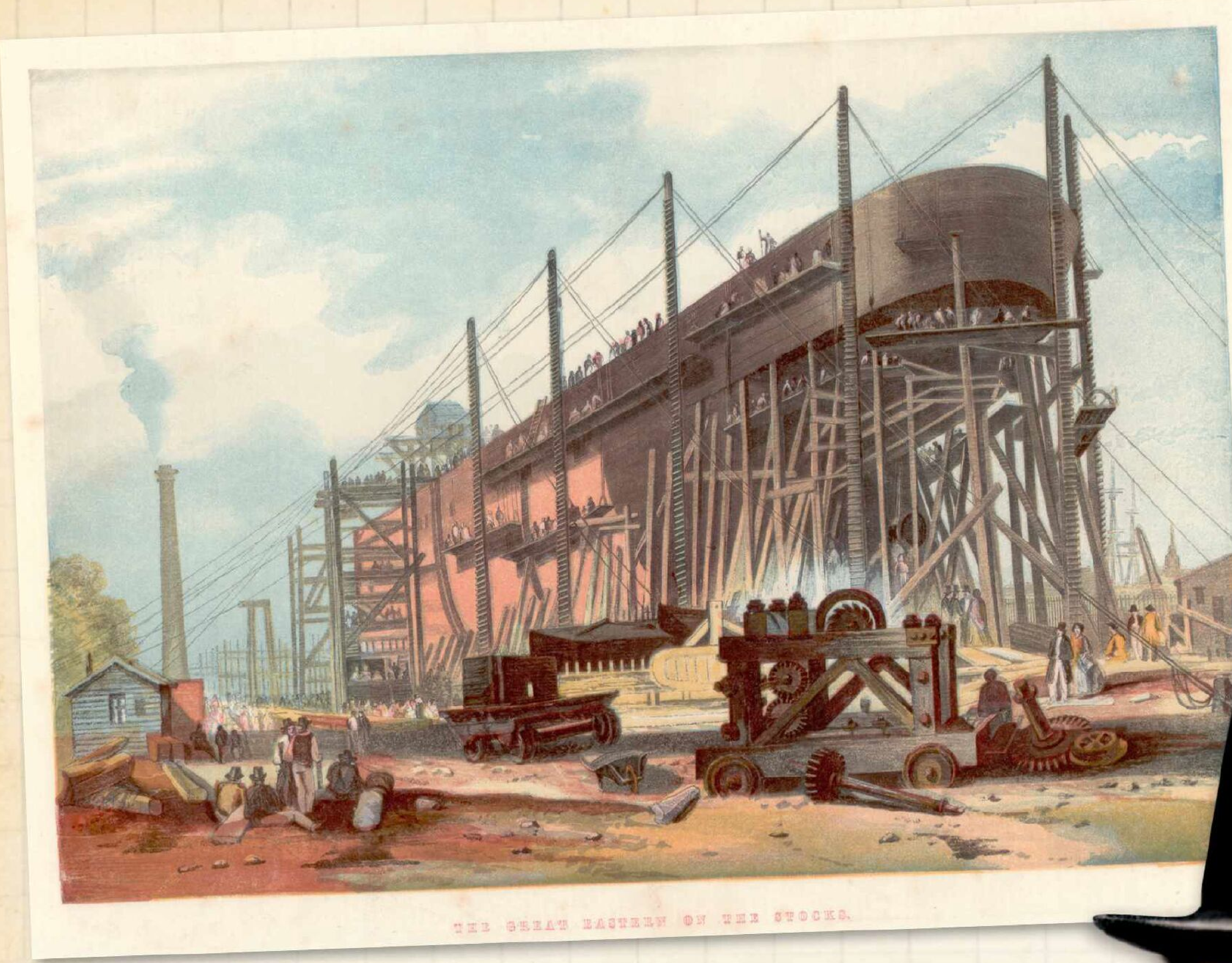
By the mid-18th century, this consumer revolution had persuaded a new wave of entrepreneurs to throw caution to the wind, scale-up operations on a huge scale and invest in factories. As they did so, a posse of new technologies arrived on the scene that would transform the production process. In 1769, Richard Arkwright invented a spinning frame, which soon meant that thread could be produced at a volume almost unthinkable a few years before. A decade later, James Watt and Matthew Boulton revealed to the world a steam engine that could efficiently power factory machinery.

By the end of the 18th century, new roads and canals had made the cost of transporting goods and people cheaper than ever before. The following century, the rise of the railways – fuelled to a large extent by the riches of empire – linked the country’s ports, towns and rapidly growing metropolises. The industrial age had well and truly arrived.

WORDS: SPENCER MIZEN

TOP 11 INVENTORS OF THE INDUSTRIAL REVOLUTION

The Industrial Revolution was a time of discovery and innovation – and these 11 great minds helped lead the way


THE GREAT EASTERN ON THE STOCKS.

Brunel's SS *Great Eastern* (*left*) was by far the largest ship in the world when it was launched in 1858, measuring more than 200 metres in length

Isambard Kingdom Brunel

BEST KNOWN FOR: **Great Western Railway, SS *Great Britain***

One of the most recognisable figures of the Industrial Revolution, Isambard Kingdom Brunel (1806–59) was a prolific engineer who created everything from bridges and ships to railways.

Born in Portsmouth, Brunel began his career during the 1820s, when he assisted his father, Marc, during the construction of the Thames Tunnel – the world's first tunnel to be built underneath a navigable river. In 1831, he won a contest to design a bridge over Bristol's Avon Gorge (*see page 72*), before embarking on a project to connect London and Bristol by rail. Completed in 1841, Brunel's Great Western Railway not only boasted 116 miles of track, but numerous bridges, viaducts, and the iconic Paddington and Bristol Temple Meads railway stations.

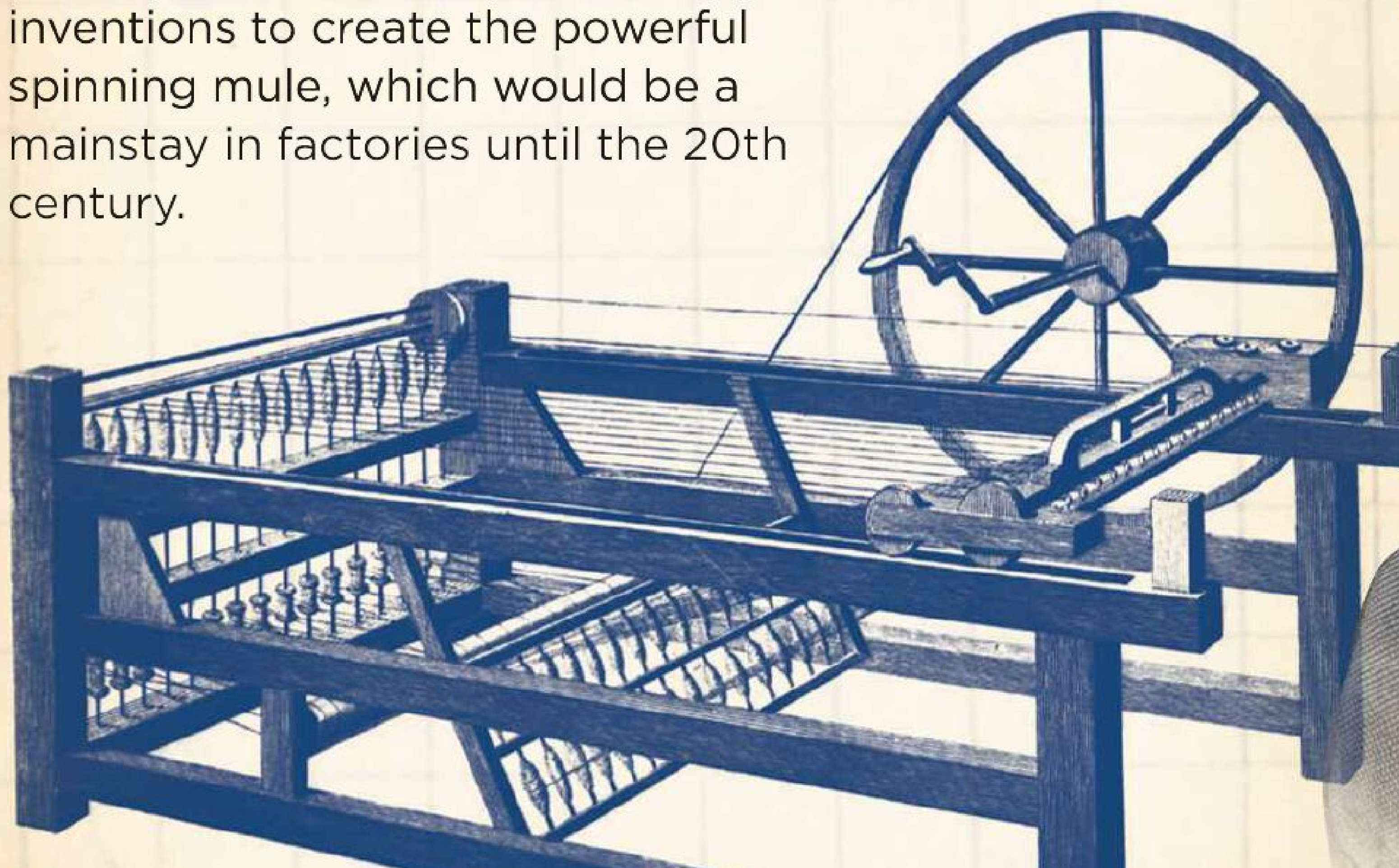
Brunel also saw the maritime potential of steam technology, designing the SS *Great Western* (1838), the world's first steamship to be used for transatlantic travel, as well as the SS *Great Britain* (launched in 1843), the world's first iron-hulled, propeller-driven steamship.

DREAMSTIME X1, GETTY IMAGES X7, ALAMY X2

James Hargreaves

KNOWN FOR: **Spinning jenny**

Textile manufacture was one of the main forces behind the Industrial Revolution, evolving from a modest cottage industry into a multi-million-pound behemoth. One of the key figures behind this shift was Lancashire-born loom weaver James Hargreaves (c1720–78), who, in 1770, patented a device known as the spinning jenny. Unlike traditional spinning wheels, Hargreaves' contraption boasted several vertical (as opposed to horizontal) spindles, allowing multiple threads of cotton to be spun at the same time. Although not as effective as Richard Arkwright's water frame (*see page 73*), Samuel Crompton would later combine both inventions to create the powerful spinning mule, which would be a mainstay in factories until the 20th century.

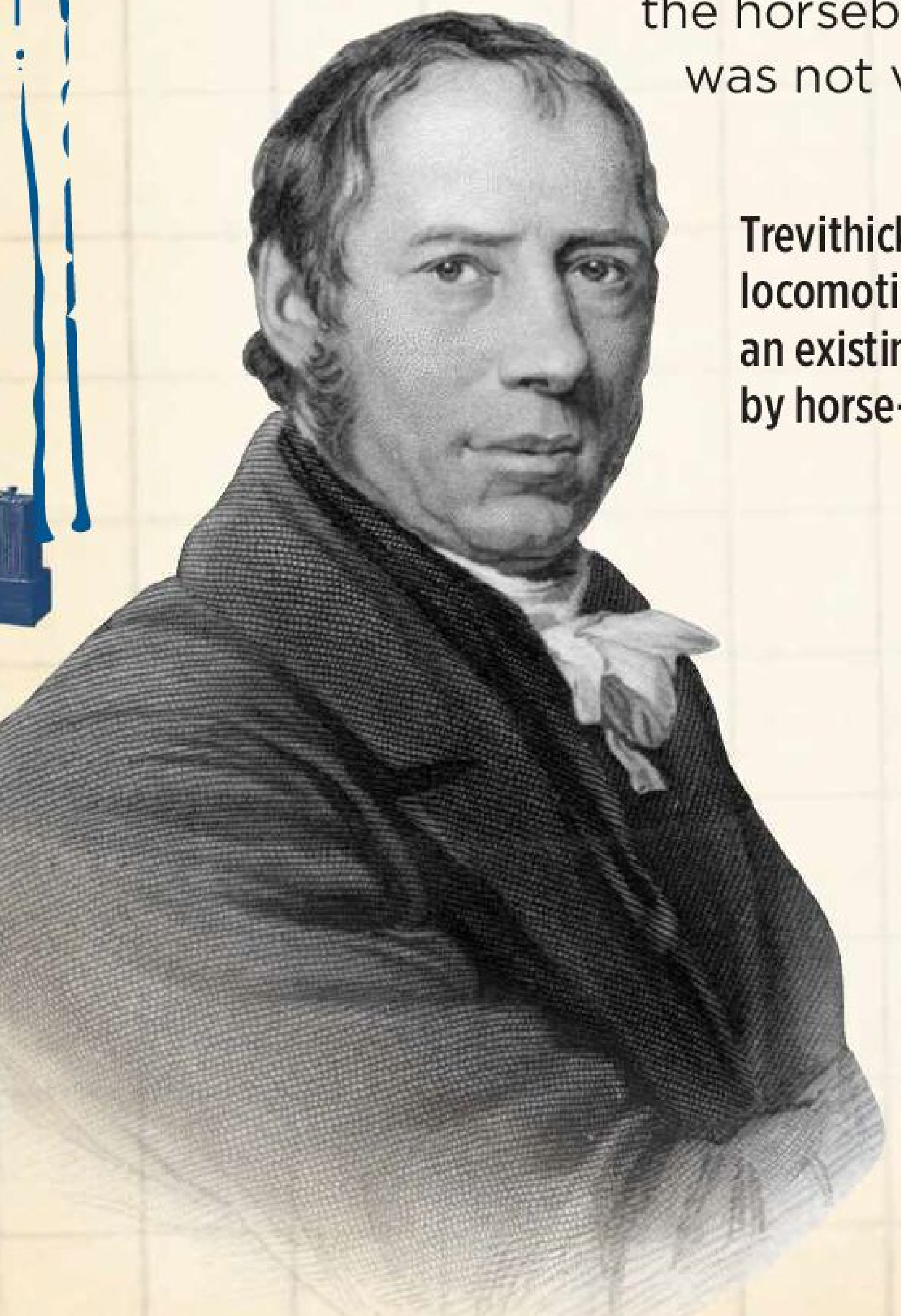


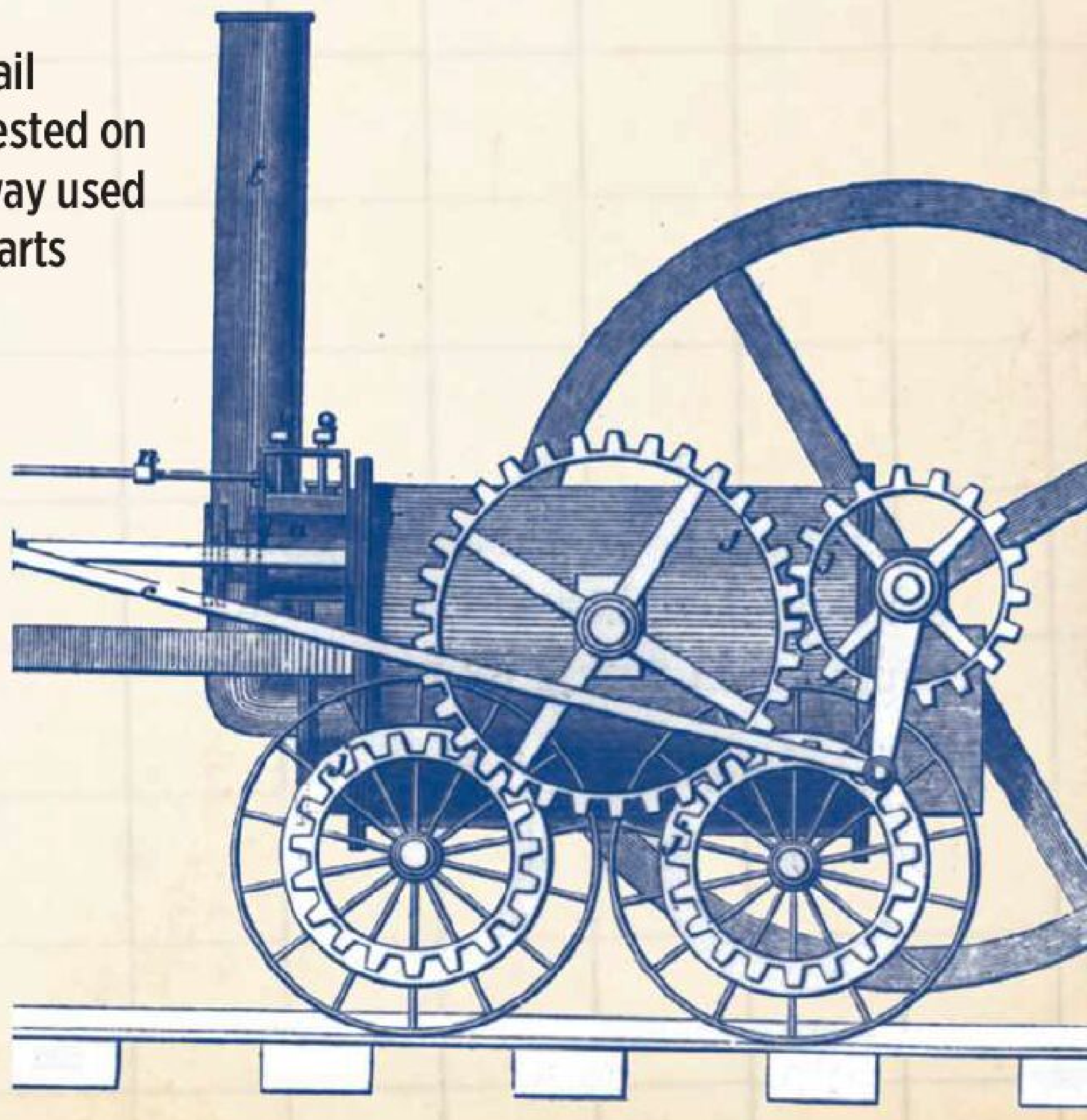
The name 'jenny' comes from the English slang term for an engine

Richard Trevithick

KNOWN FOR: **Steam locomotive**

The world's very first railway journey, of around 10 miles, took place in south Wales in 1804, masterminded by engineer Richard Trevithick (1771–1833). The Cornishman had previously developed a series of high-pressure road engines, and was invited to Samuel Homfray's ironworks at Penydarren to see whether he could create a rail-mounted version. Trevithick was ultimately successful in his endeavours, and the ensuing journey saw his experimental locomotive haul 10 tonnes of iron and 70 men on wagons. Within a century, railways had been built all over the world, with trains able to reach speeds of more than 60mph – a far cry from the horseback gallop of the past. Sadly, Trevithick was not very business minded, and died penniless.





Trevithick's first rail locomotive was tested on an existing tramway used by horse-drawn carts

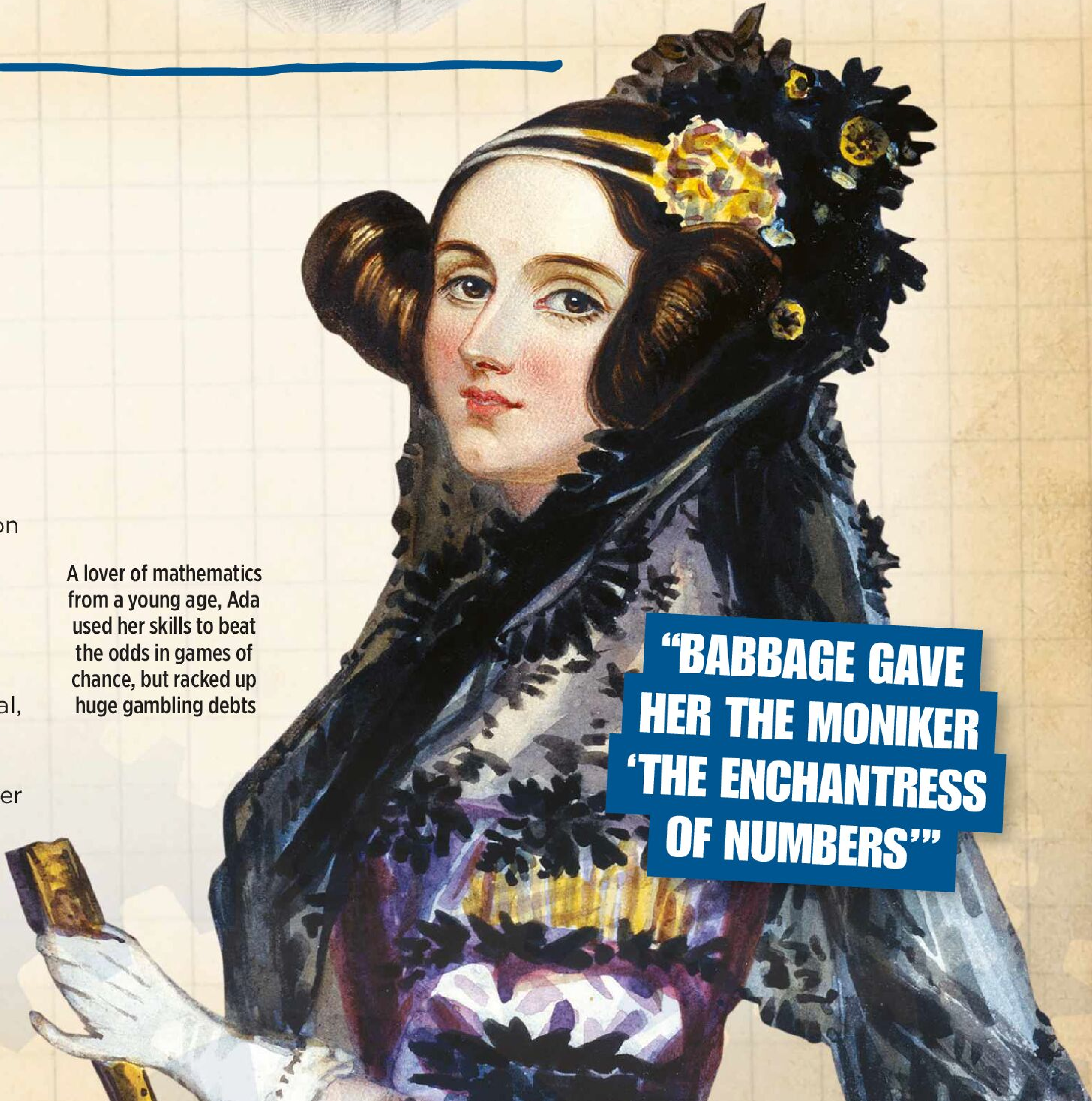
Ada Lovelace

KNOWN FOR: **Computer programming**

Thinking about the early origins of computer programming probably conjures up images of Alan Turing and his codebreaking team at Bletchley Park during World War II. However, its origins actually stretch back to the early 19th century, and the work of pioneering mathematician Ada Lovelace (1815–52). The daughter of famed poet Lord Byron and Annabelle Milbanke, Lovelace received private tuition in mathematics as a child (exceptionally rare for a girl), and became something of a prodigy.

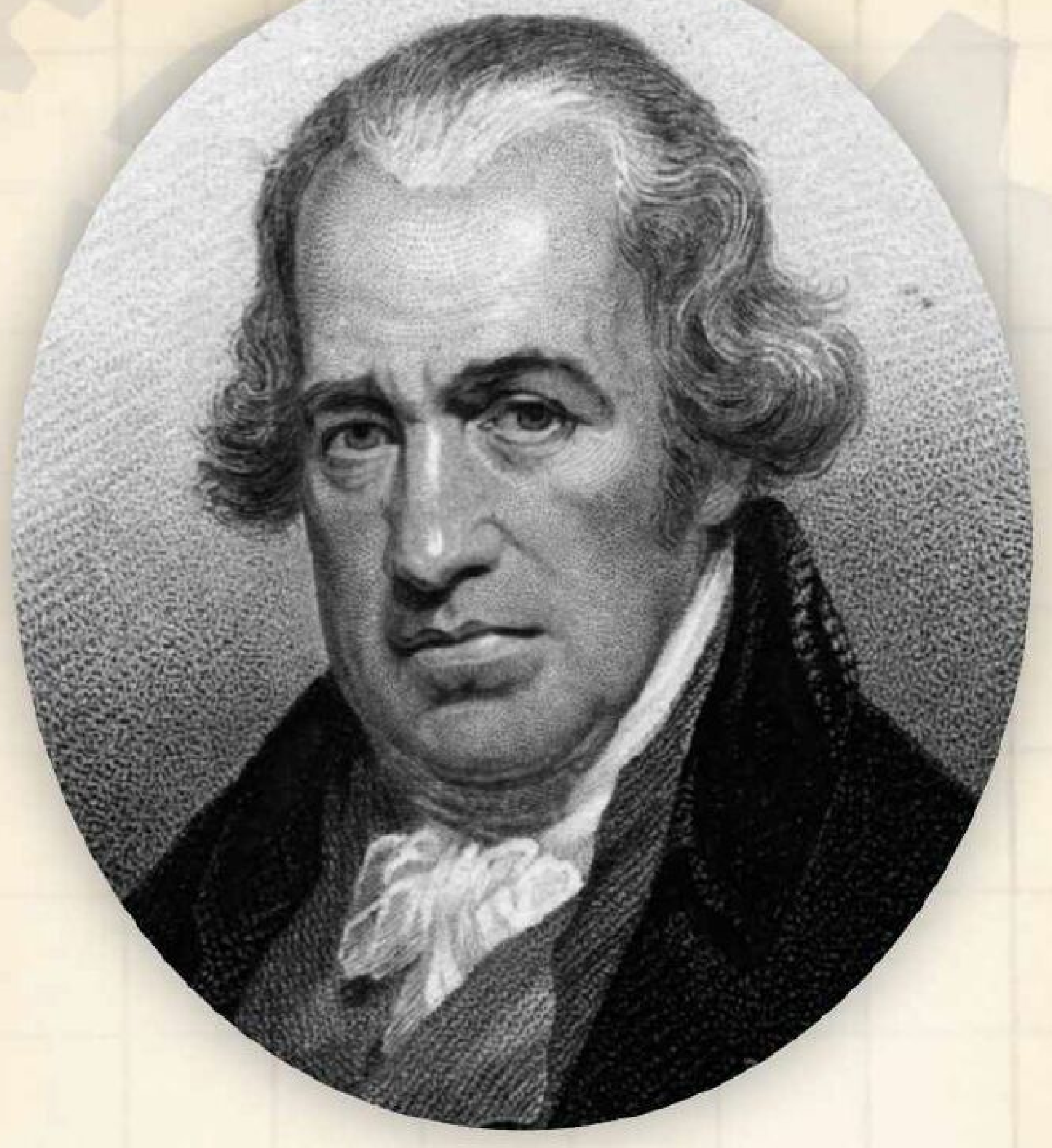
At the age of 17, Lovelace crossed paths with scientist Charles Babbage, who was attempting to build an 'Analytical Engine' to carry out complex mathematical calculations. Recognising the potential, she wrote extensive notes outlining the possibilities of Babbage's creation, which are now viewed as being the first comprehensive comment on computer programming. Indeed, Babbage was so impressed with her mathematical prowess that he gave her the moniker 'the Enchantress of Numbers'.

Sadly, Lovelace died aged 36 from cancer, and was buried next to the father she hardly knew, who had died at the same age. ▶



A lover of mathematics from a young age, Ada used her skills to beat the odds in games of chance, but racked up huge gambling debts

"BABBAGE GAVE HER THE MONIKER 'THE ENCHANTRESS OF NUMBERS'"



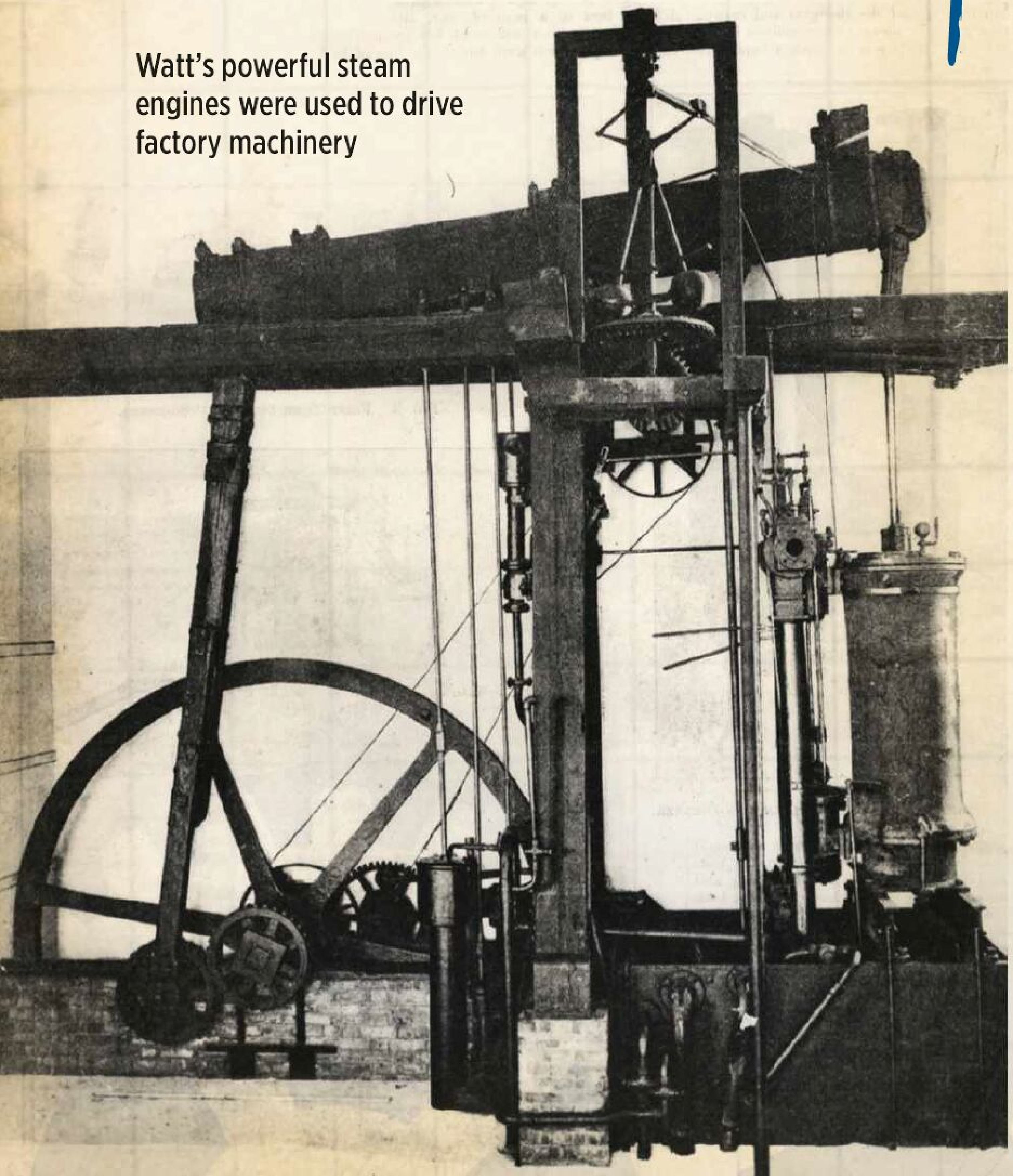
James Watt

BEST KNOWN FOR: **Watt engine**

The world's first practical steam engine was invented by Thomas Newcomen, who designed a device in 1712 for pumping water out of coal mines. However, the man to recognise the full potential of steam power was Scotsman James Watt (1736–1819), who adapted and enhanced Newcomen's engine by adding a separate condensing chamber.

Together with his business partner, Matthew Boulton, Watt began manufacturing the engines on a massive scale, and soon, they were being installed in mines, mills, canals and waterworks all across the country, helping to drive the Industrial Revolution. The inventor was made a fellow of the Royal Society in 1785, and the watt – the standard measure of electrical power – was later named in his honour.

DREAMSTIME X1, GETTY IMAGES X6, STEWY X1



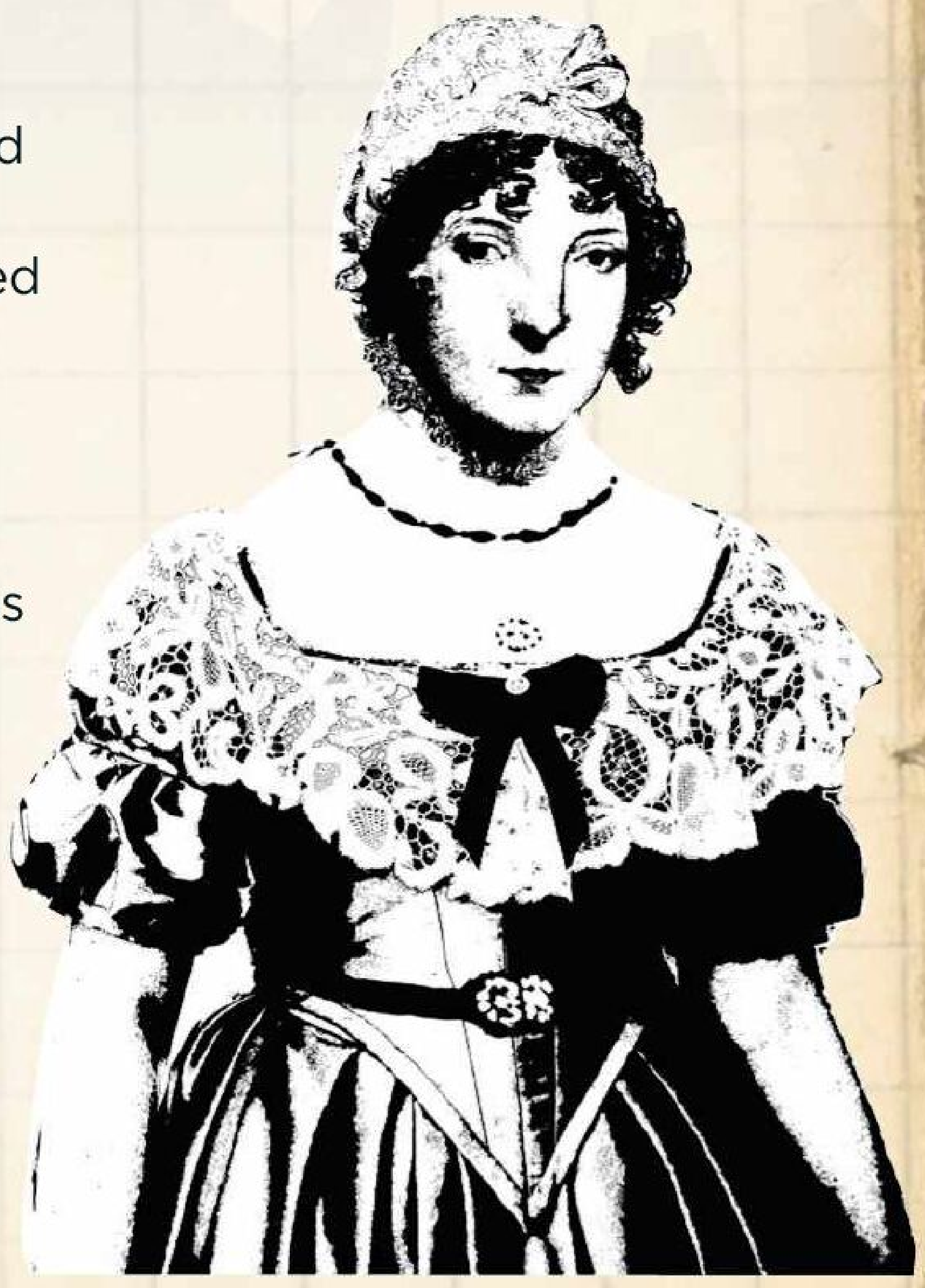
Watt's powerful steam engines were used to drive factory machinery

Sarah Guppy

BEST KNOWN FOR: **Bridge designs**

Some of Britain's most well-known bridges, though designed by men, may not have existed were it not for a woman named Sarah Guppy (1770–1852). Born in Birmingham, Guppy settled in Bristol and took out numerous patents. One such invention, a system to keep barnacles off ships, earned her a lucrative contract with the Admiralty and between £20,000–£40,000. However, it is Guppy's work on bridges that has garnered her the most attention, patenting a design in 1811 for a type of suspension bridge mounted on chains.

Although Guppy's rumoured influence on Isambard Kingdom Brunel's design for the Clifton Suspension Bridge (completed in 1864) has most likely been overstated, she certainly does deserve credit for aspects of Thomas Telford's Menai Bridge (1826), which connects Anglesey to the Welsh mainland.



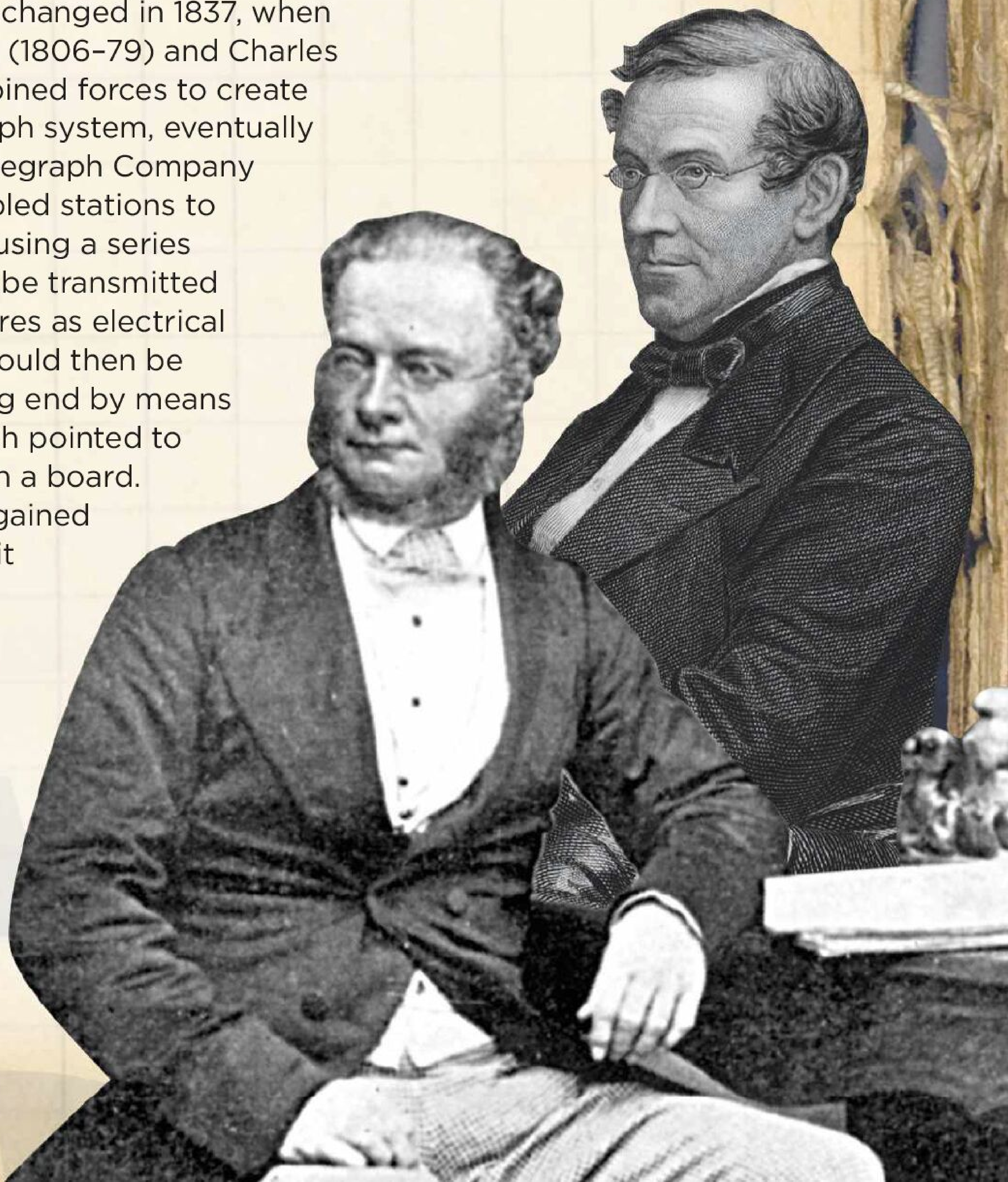
Sarah Guppy was the first woman to receive a patent for a bridge design

William Fothergill Cooke and Charles Wheatstone

BEST KNOWN FOR: **Commercial telegraph system**

Along with developments in manufacture and transport, the Industrial Revolution also led to new breakthroughs in communication. Whereas the postal service had previously been the only option when it came to conveying messages over long distances, this changed in 1837, when William Fothergill Cooke (1806–79) and Charles Wheatstone (1802–75) joined forces to create their commercial telegraph system, eventually forming their Electric Telegraph Company in 1846. The system enabled stations to tap out short messages using a series of buttons, which would be transmitted through underground wires as electrical signals. The messages would then be displayed at the receiving end by means of rotating needles, which pointed to letters of the alphabet on a board.

In 1845, the invention gained national attention when it was used in the capture of John Tawell, who had murdered his mistress near Slough and attempted to escape by train. Using a newly installed telegraph system, local police sent a description of Tawell to Paddington station, where he was apprehended.

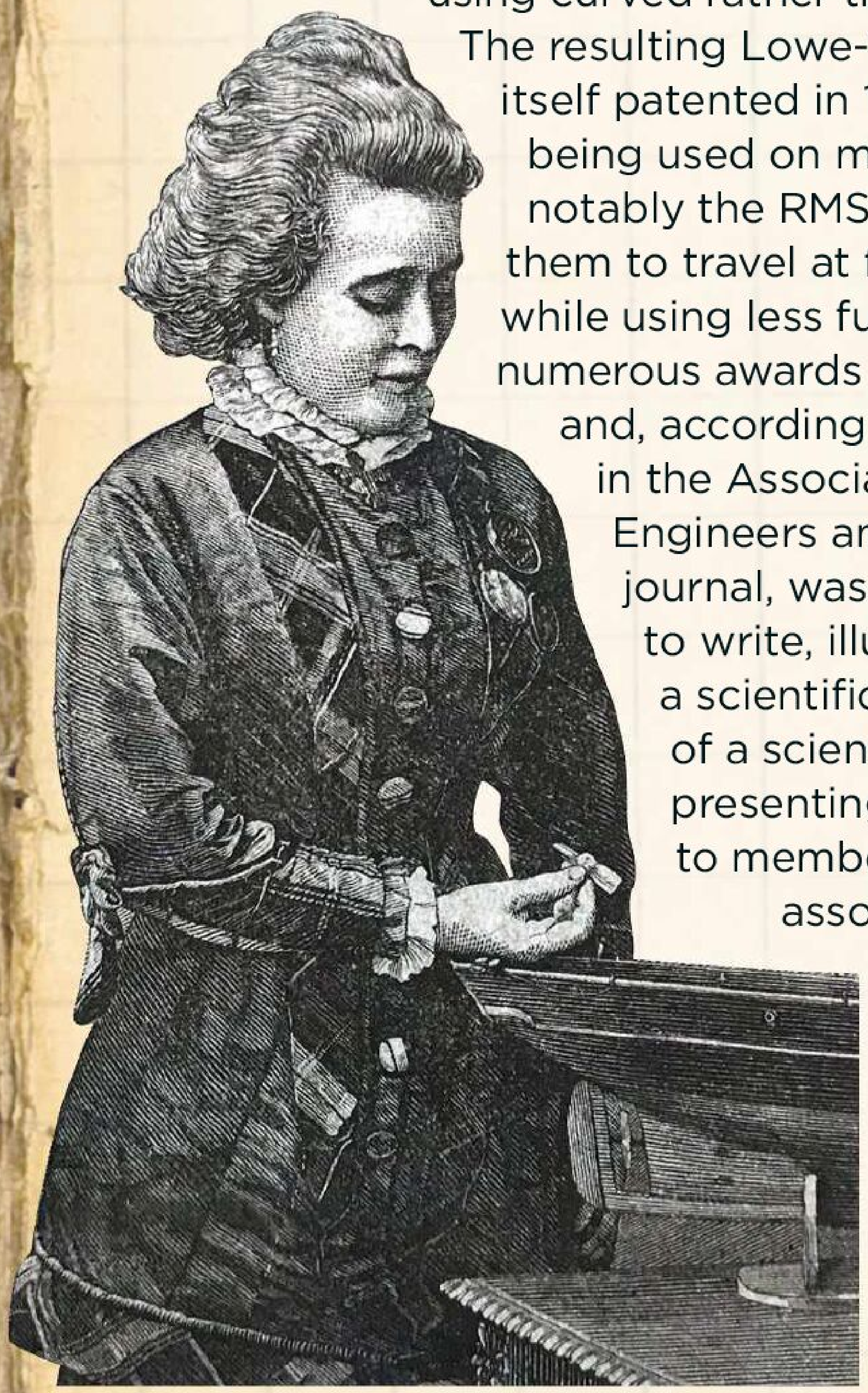


Although they didn't invent electric telegraphy, Cooke (*left*) and Wheatstone (*right*) developed the first commercially viable system

Henrietta Vansittart

BEST KNOWN FOR: **Lowe-Vansittart propeller**

Henrietta Vansittart (1833–83) is regarded as being one of Britain's first female inventors. Her late father, James Lowe, had patented a stern-mounted marine propeller in 1838, but Henrietta significantly improved the design, using curved rather than straight blades. The resulting Lowe-Vansittart propeller, itself patented in 1868, would end up being used on many famous ships, notably the RMS *Lusitania*, enabling them to travel at faster speeds while using less fuel. Henrietta won numerous awards for her invention, and, according to an obituary in the Association of Foreman Engineers and Draughtsmen's journal, was the first woman to write, illustrate and read a scientific paper in front of a scientific institution, presenting her work to members of that association in 1876.

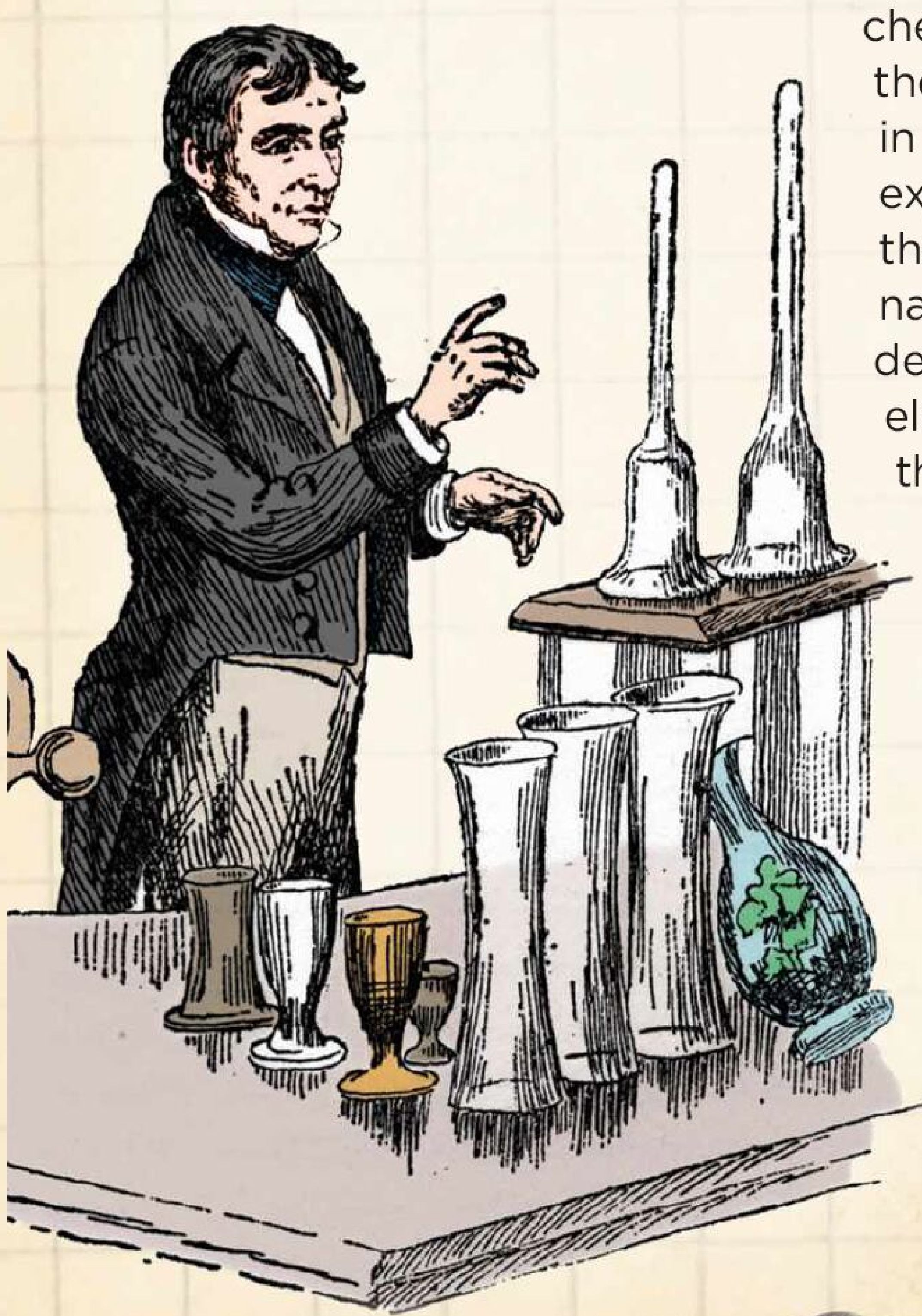


Vansittart as depicted on the cover of an 1882 pamphlet in which she told the story of her propeller's creation

Michael Faraday

BEST KNOWN FOR: **Electric generator**

In 1812, a young Michael Faraday (1791–1867) was offered a ticket to attend series of lectures by Sir Humphry Davy – inventor of the mining safety lamp. Despite having little formal education, Faraday was fascinated by the lectures, and sent Davy a bound copy of his meticulous notes. Impressed by the young man's work, Davy secured Faraday a job as an assistant at the Royal Institution, where he learned the principles of chemistry and rose to become the director of its laboratory in 1825. But it was Faraday's experiments with electricity that made him a household name. In 1831, 10 years after developing the world's first electric motor, he demonstrated that it was possible to produce an electric current by passing a magnet through a coil of copper wire – a phenomenon known as electromagnetic induction. This discovery paved the way for the first electric generators, which would ultimately change the world.



Michael Faraday began his career as a chemist, but his greatest discoveries resulted from his work on electricity and magnetism

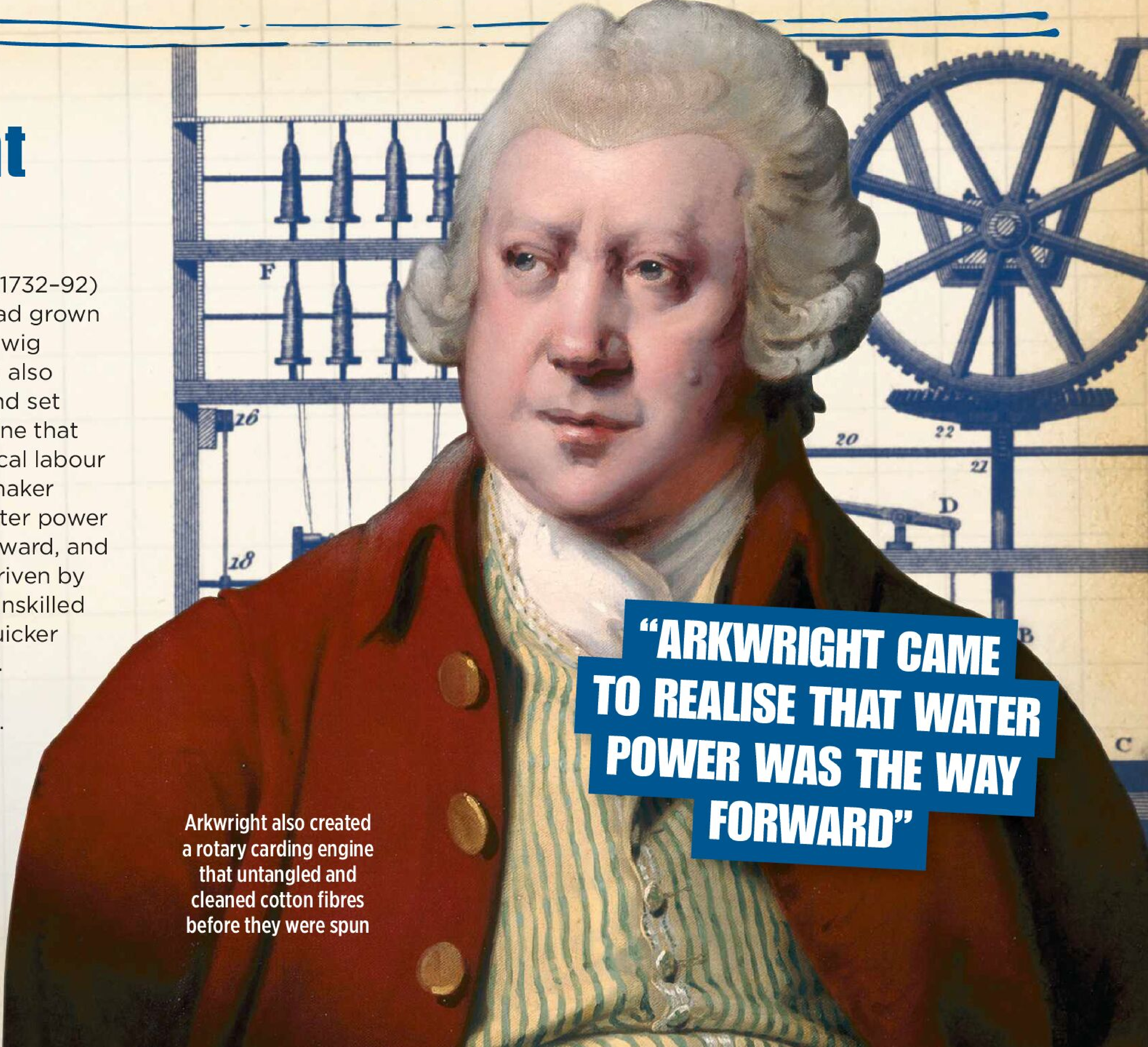
Richard Arkwright

BEST KNOWN FOR: **Water frame**

Born into a large family, Richard Arkwright (1732–92) was determined to escape the poverty he had grown up in and make his fortune. While running a wig company in his native Lancashire, Arkwright also became interested in textile manufacture, and set about building a mechanical spinning machine that could create tough yarn, with minimal physical labour required. After enlisting the help of a clockmaker named John Kay, he came to realise that water power – rather than horse power – was the way forward, and developed a spinning frame that could be driven by water wheels. These could be operated by unskilled workers, and spin huge quantities of yarn quicker than anyone was capable of doing manually.

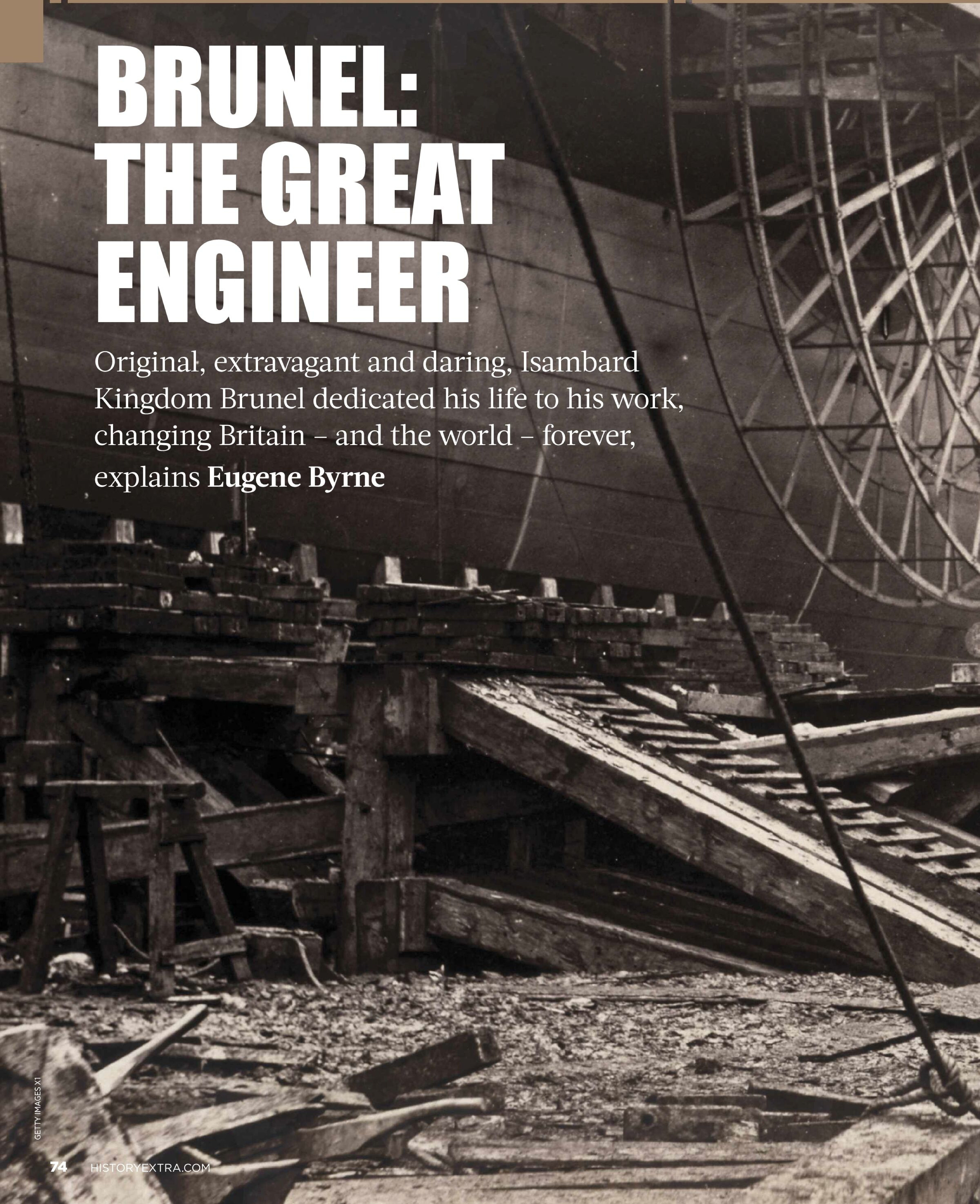
But possibly just as revolutionary as the water frame was Arkwright's factory system. After building his first water-powered cotton mill at Cromford, Derbyshire, in 1771, the industrialist's mobilisation of a large workforce, employed around the clock on long and gruelling shifts, would soon be replicated elsewhere.

WORDS: EMMA SLATTERY WILLIAMS



Arkwright also created a rotary carding engine that untangled and cleaned cotton fibres before they were spun

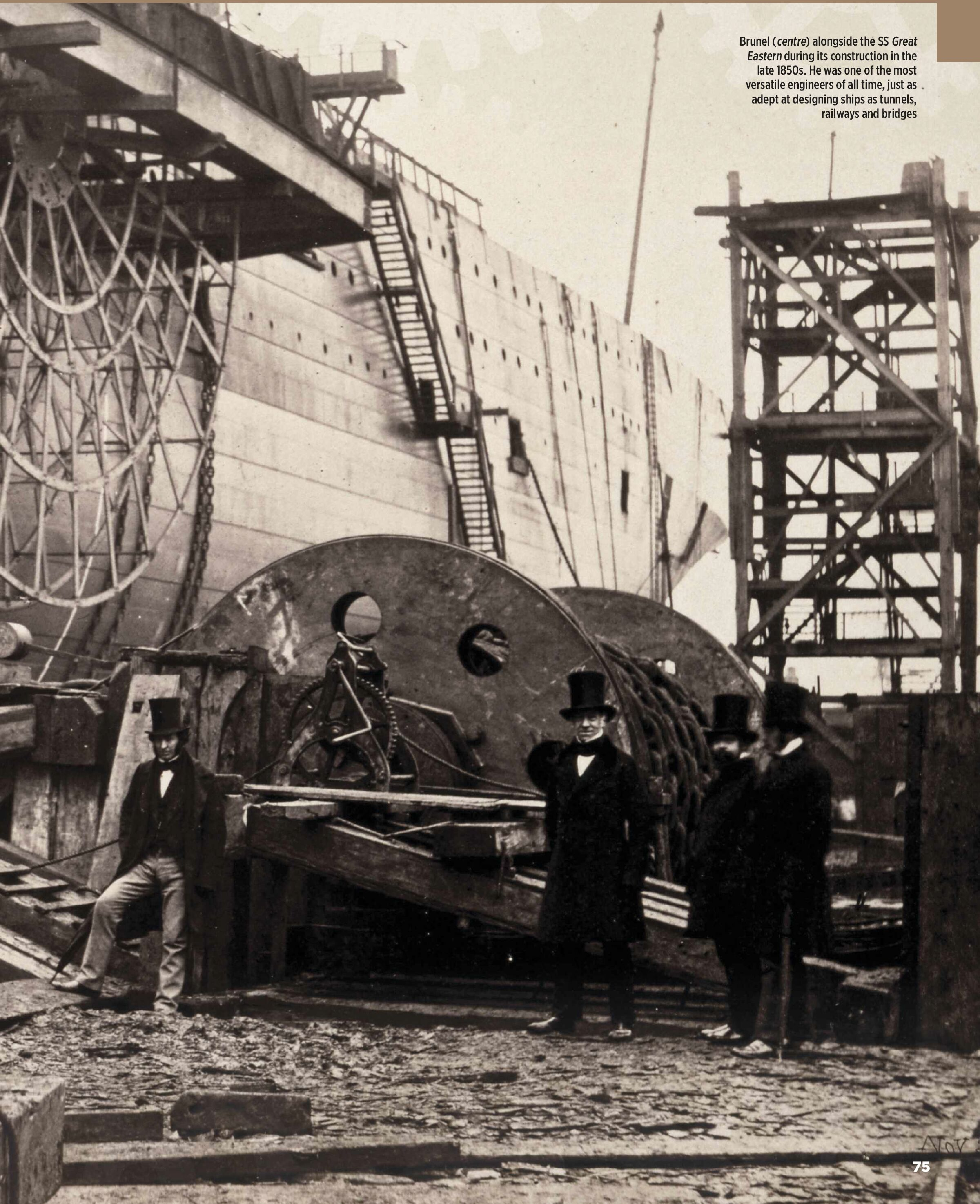
> "ARKWRIGHT CAME TO REALISE THAT WATER POWER WAS THE WAY FORWARD"



BRUNEL: THE GREAT ENGINEER

Original, extravagant and daring, Isambard Kingdom Brunel dedicated his life to his work, changing Britain – and the world – forever, explains **Eugene Byrne**

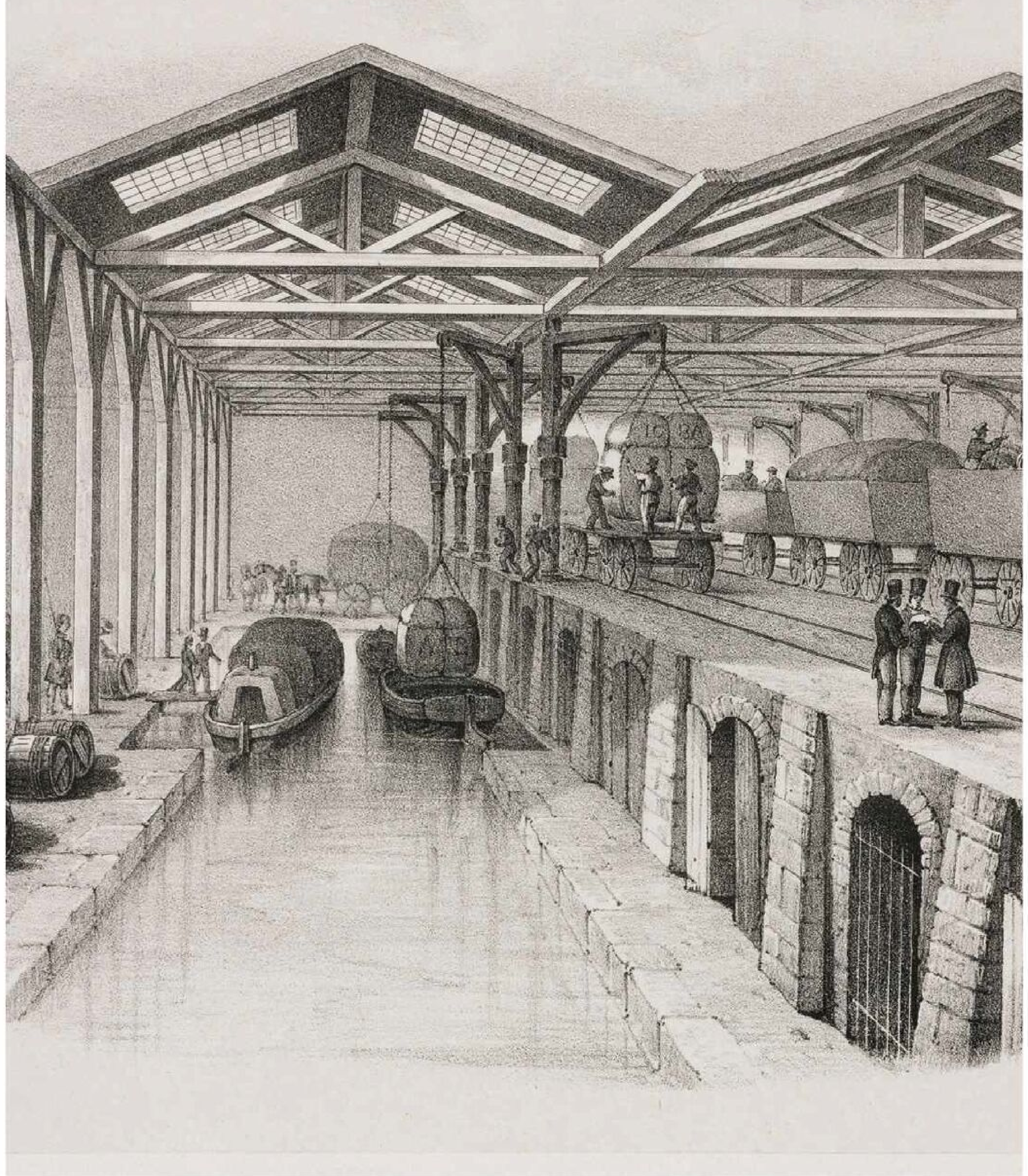
GETTY IMAGES X1

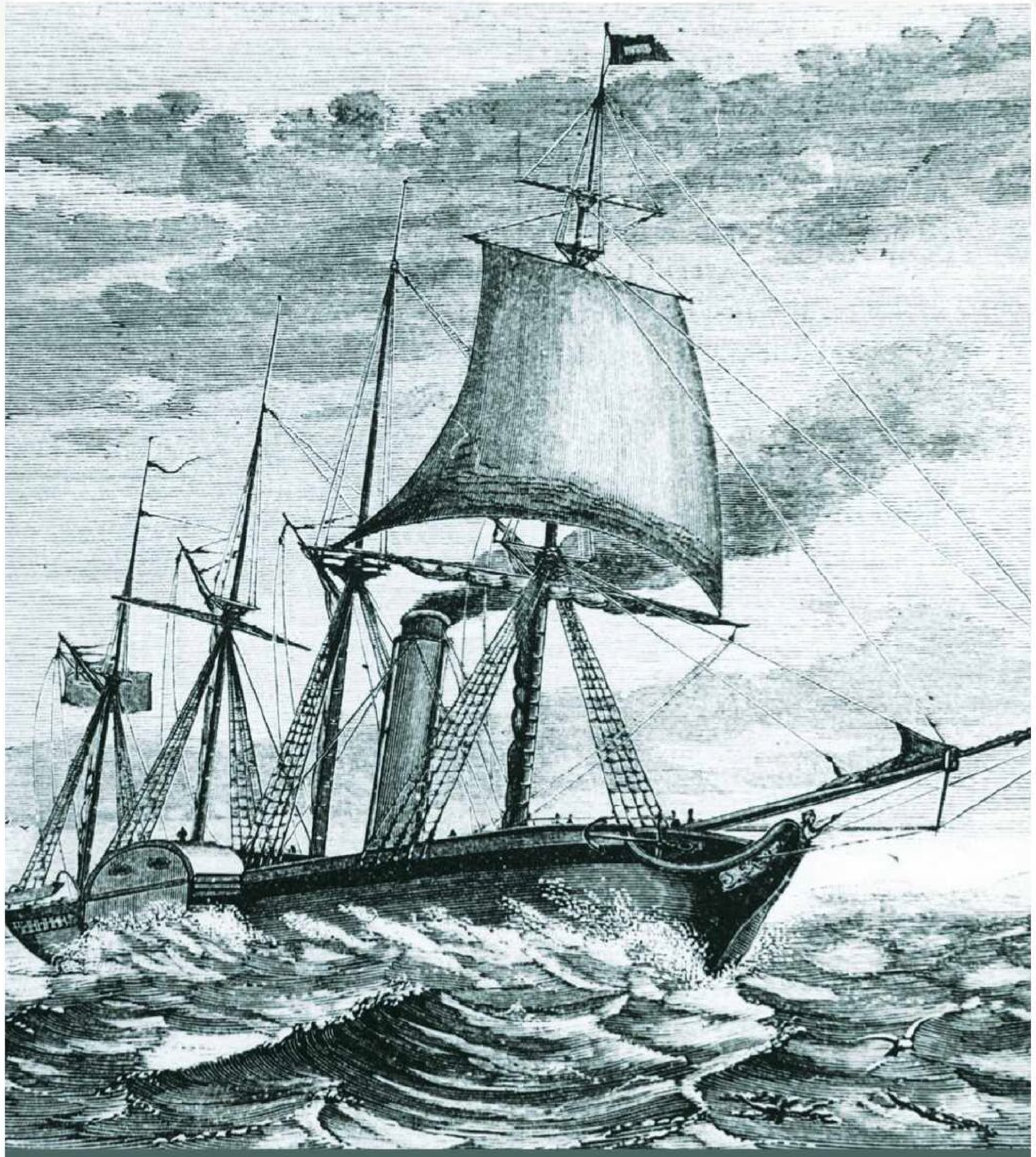


Brunel (*centre*) alongside the SS *Great Eastern* during its construction in the late 1850s. He was one of the most versatile engineers of all time, just as adept at designing ships as tunnels, railways and bridges

MARCH 1833

Aged just 26, Brunel becomes chief engineer of the first railway in the world to be designed as an integrated system. His plans encompassed everything from the buildings to the locomotives, as shown in this design for a canal-and-rail freight depot.





APRIL 1838

At 32 years old, Brunel is responsible for designing the largest passenger ship in the world. It is conceived as an extension of the Great Western Railway line, to take passengers from London to New York via Bristol. The vessel's maiden voyage, in 1838, proves that ships can cross the Atlantic quickly and safely under steam power alone. However, passengers complain of the persistent smell of animal fats that had to be used to grease the machinery.

When Isambard Kingdom Brunel, the young son of celebrated French engineer Marc Brunel, was attending boarding school in Hove, he predicted the collapse of a building opposite the school. With a storm looming, bets were placed with his classmates. The next morning, the young Brunel collected his winnings over breakfast.

It sounds like the stuff of legend, but this is a legendary figure, even in today's Britain. Brunel is a great British hero more than 200 years after his birth. He came second to Winston Churchill in a 2002 BBC poll to find the greatest Briton of all time, and was played by Kenneth Branagh as one of the central figures of Danny Boyle's London 2012 Olympics opening ceremony. His vitality in the public consciousness is partly due to the fact that so many of his engineering works live on, incorporated into modern life, such was their ingenuity and effectiveness.

But while his place in history was always going to be assured by his engineering skills, it was the charisma of the man and his work that gave him iconic status.

"He once insisted on building a bridge on a principle which was condemned by competent critics," reported a Bristol newspaper, long after Brunel's death. "The bridge, which had cost ten thousand pounds, collapsed and the directors remonstrated with their engineer on the waste of money involved.

"Brunel was equal to the occasion. He triumphantly retorted that he had saved the company hundreds of thousands of pounds, for he argued if the structure had not collapsed he would have built all the bridges on the system the same way."

The story sums up Brunel's reputation. Always experimenting, always wanting to find new and better ways of doing things, always coming out on top – and able to persuade hard-nosed shareholders they should invest more. The glory of Bristol's Clifton Suspension Bridge shows that the majority of his bets did come off, often in spectacular fashion.

FOLLOW THE FATHER

The apple didn't fall far from the tree for the Brunels. Isambard's father, Marc (1769-1849), was a Normandy-born engineer who left France for his own safety during the French Revolution. Shortly before he left, he had fallen for an English girl, Sophia Kingdom, and promised he would return for her. Marc went first to America where he was briefly Chief Engineer for the city of New York. Sophia, meanwhile, was interned by Revolutionary authorities when Britain declared war on France in 1793, and for almost a year lived in fear of being guillotined. She was eventually released and returned to England in 1795. Marc came to Britain four years later, with a proposition for the Admiralty. He had devised a system to manufacture the huge numbers of pulley-blocks the Royal Navy needed for its ships' rigging. One of the first things he did on arriving was reclaim his betrothed, and they married late in 1799.

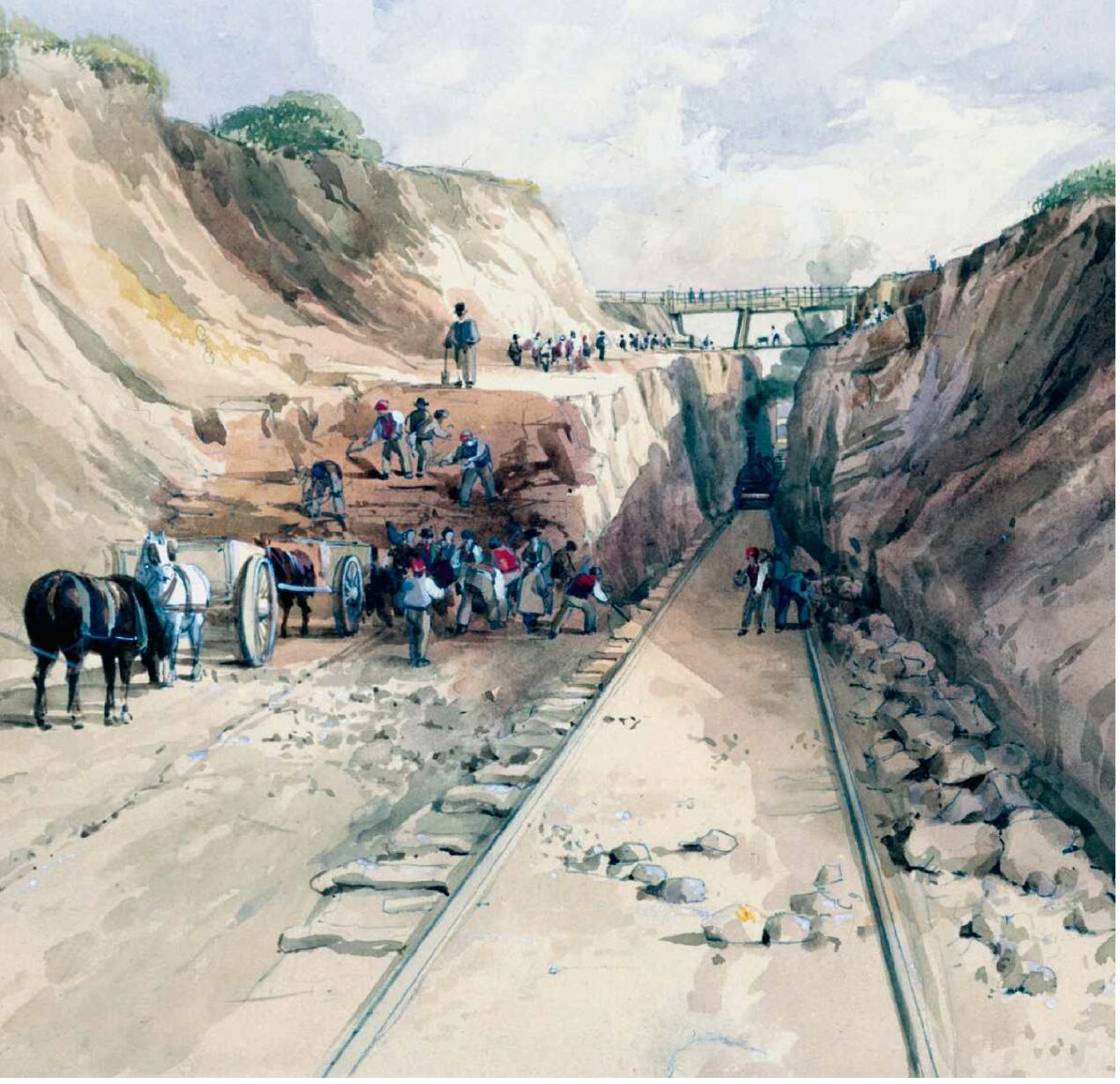
In Britain, Marc Brunel designed buildings, bridges and steamships, and devised some of the world's first mass-production processes. As a result his talents were used well during the Napoleonic Wars. When Isambard was born in 1806, the family – Marc, Sophia and daughters Sophia and Emma - was living in Portsmouth, where Marc had built a factory for mass-producing his pulley blocks for the Royal Navy.

During a happy childhood, Isambard

GETTY IMAGES X4, ALAMY X1

JUNE 1838

The rail line is laid between Paddington and Maidenhead – the first section of Brunel's Great Western Railway. The tracks were far wider than the 'standard gauge' used by all the other rail companies. Brunel argued that his broad gauge permitted larger, more powerful locomotives, as well as increasing stability. He rolled it out across the board – including on the Bath-Bristol line, seen here. None of the other companies followed suit.



JULY 1845

The first iron-hulled ocean-going steamship driven by propeller, the SS *Great Britain* was designed to run regularly between Bristol and New York, but its high cost forced its owners out of business.

BRUNEL'S ss GREAT BRITAIN

flourished in what his father regarded as the two key elements of engineering – drawing and maths (he had learned Euclidean geometry by eight). By the time he was at boarding school in Hove, the boy was making architectural plans of the town buildings, just for fun.

With the wars over, his father sent him to France to complete his education, first to Caen and then to Lycée Henri-IV in Paris. Marc regarded Britain as the best place for engineering practice, but France as the best for theory. And the 5'3" Isambard always had something to prove – many felt because of his height, but perhaps also because of the shadow of his father. Marc's three-month imprisonment for debts when Isambard was 15 may also have been a factor.

Isambard joined the family firm on his return, working with Marc on a bewildering range of schemes – a printing press, a copying machine, a system for making decorative packaging with foil, a sawmill, a steam engine, a canon-boring mill, suspension bridges for French colonies…

The biggest project was the Thames Tunnel. Work began at Rotherhithe in 1825, using Marc's patented 'tunnelling shield', which enabled miners to dig away sections of soil while bricklayers worked behind to line and secure the tunnel.

Rather than clay, the shield came up against sand, gravel and rotting sewage. The tunnel was poorly ventilated, and the foul-smelling air carried quantities of methane. The men suffered fevers, temporary blindness, vomiting, hallucinations and even the loss of fingernails. Eager to prove himself, 20-year-old Isambard took charge of day-to-day operations.

The first flood happened on 18 May 1827. Water crashed through the ceiling of the tunnel and a huge wave rushed through. Isambard rescued one of the older men as everyone struggled to escape.

Once work resumed, Isambard staged a daring publicity stunt to reassure investors and the public. A banquet was held in the tunnel itself; 50 distinguished guests dined, accompanied by music from the band of the Coldstream Guards. He also commissioned an artist to record the event.

In January 1828, the water burst in with greater ferocity. Isambard was trapped under a fallen timber, suffering a damaged knee and internal injuries. Six men were killed.

Marc took control of the project again, but investor confidence had collapsed and work stopped. The tunnel was eventually completed in 1843, when it was hailed as a modern wonder of the world (it is still used by the London Underground today). Marc Brunel was knighted in 1841 by Queen Victoria.

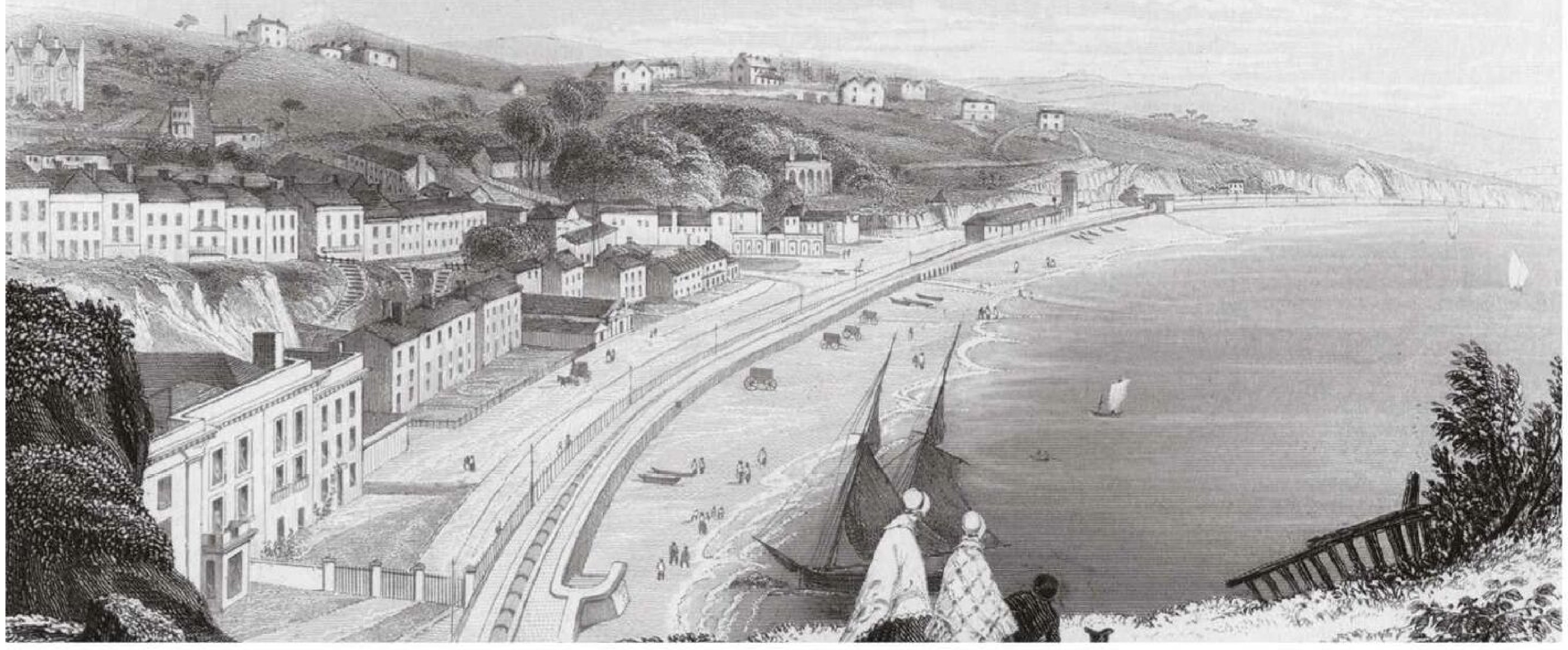
BRISTOL FASHION

While recovering from the accident, Isambard visited Bristol. He found that the city fathers were running a competition for a design for a suspension bridge that would cross the Avon Gorge. He entered a design (with some help from his father).

The contest judge was Thomas Telford, the greatest engineer of the day. He thought Brunel's design "pretty and ingenious" but reckoned it would collapse in a high wind. Brunel was certain it would not, and that the whole gorge could be safely spanned by a suspension bridge. Telford ruled that none of the other designs were suitable either, and came up with one of his own. Bristol's Bridge Committee held another contest with a new judge. After furious behind-the-scenes lobbying, Brunel won.

SEPTEMBER 1847

For the South Devon Railway, Brunel develops a system that uses pneumatic propulsion. Sadly, key elements are corroded by the sea air and, allegedly, attract rats. The line runs for just a year and loses a great deal of money



JANUARY 1858

The SS *Great Eastern* is launched in London. For more than 40 years, it will be the biggest ship ever built, but it is beset by issues. Technical and financial problems, and ill-feeling between Brunel and the shipbuilder caused the engineer much stress, which may have contributed to his death. It was a commercial disaster, though it was used to lay telegraph cable across the Atlantic. Eventually it was scrapped in 1889.

DECEMBER 1864

Brunel's Clifton Suspension Bridge is completed after his death. Some modifications are made to strengthen it, and Brunel's original decorative features are not included. Designed for horse-drawn and pedestrian traffic, it is still in use and takes over 10,000 vehicles a day

◀ The project would be dogged by financial problems and a collapse in local business confidence following riots in Bristol in 1831 (when Brunel enrolled as a voluntary constable, armed, it was said, with a chair-back).

Clifton Suspension Bridge, though, got him noticed, and when, over the winter of 1832-3 a consortium of businessmen decided to build one of the newfangled 'rail-ways' from Bristol to London, Isambard was chosen to survey the route. This completed, he was appointed as engineer to build it. He was just 26, but railways were new to everyone. The *wunderkind* was entrusted with this hugely-expensive undertaking because there were no experts as yet, and he seemed to know what he was doing.

"It will not be the cheapest," he supposedly told the directors of what would become the Great Western Railway (GWR), "but it will be the best".

He kept his word on both counts. By the time it was finished, the GWR had cost £6.5 million (at a time when a skilled worker earned less than £1 a week), more than twice the original estimate. But it was a triumph. Structures like the Hanwell Viaduct, the Maidenhead Bridge and the Box Tunnel were all masterpieces of engineering and are in good use to this day. The whole line has such a slight gradient that it was known as 'Brunel's billiard-table'.

It was all carried off with style and humour. When critics claimed the Maidenhead Bridge was so shallow it was certain to collapse, Brunel left the scaffolding in place long after it had been finished to give the impression that he, too, was worried. And the Box Tunnel, it is claimed, is aligned so that the Sun shines directly through it every 9 April – Brunel's birthday.

Long before it was completed, he was in demand as a railway engineer. Though he enjoyed spending time with his wife, Mary and their children, he was a life-long workaholic because, it's been said, there was nothing else in life that was as interesting as his work.

Brunel remained hugely ambitious, too. In an age when engineers dreamed big, nobody thought bigger. His three major ship projects – SS *Great Western*, SS *Great Britain* and SS *Great Eastern* – were each in their time the biggest vessels in the world.

Brunel's ambitions, and the expense at which they came, made him a divisive figure. His father was knighted; he was not. His friend and fellow-engineer Robert Stephenson was buried at Westminster Abbey; after his death in 1859, Brunel was interred at Kensal Green Cemetery.

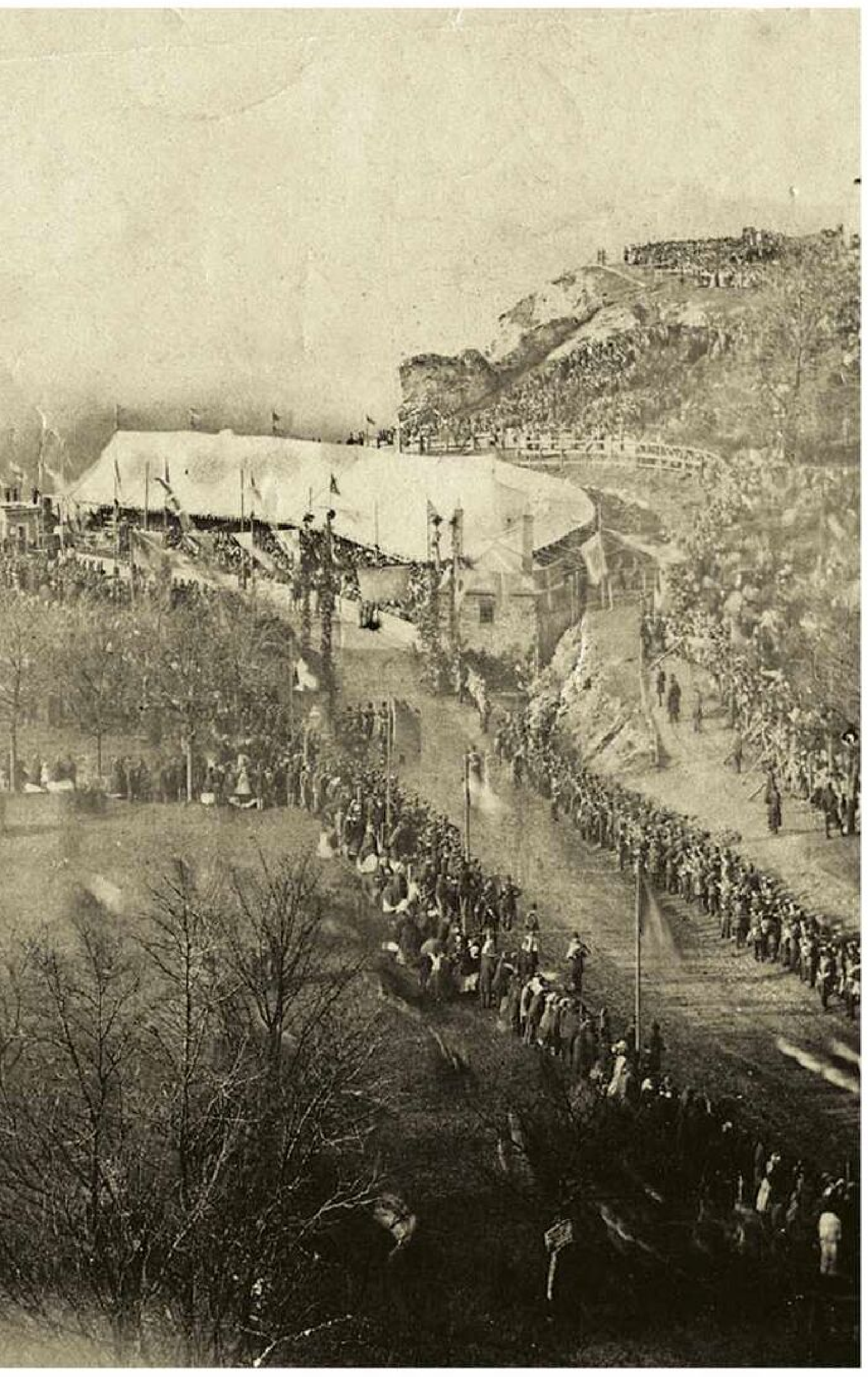
BRUNEL'S LEGACY

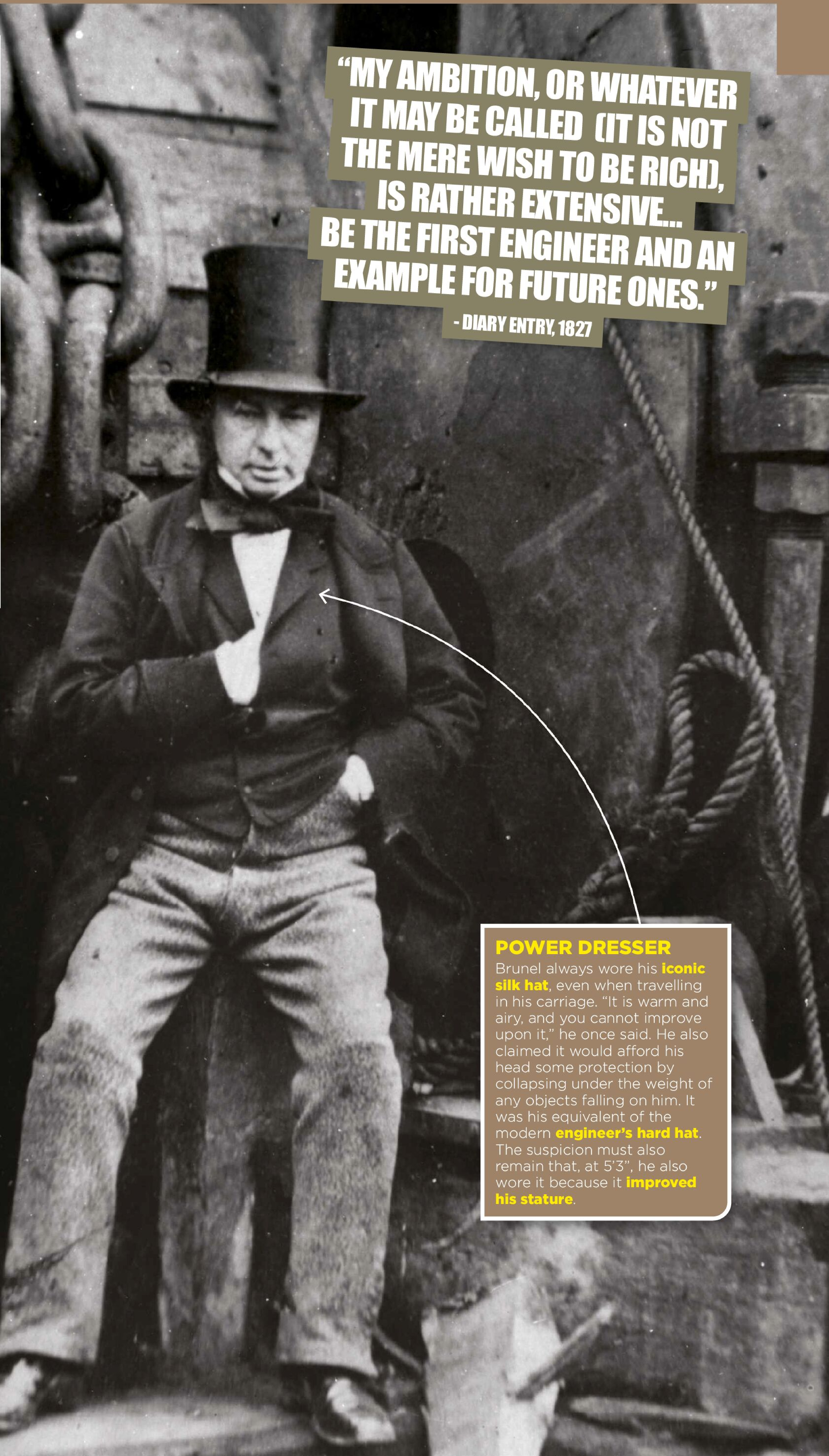
As a heavy smoker (it's said he smoked around 40 cigars a day and slept just four hours a night), the fatal stroke that struck Brunel was not a complete shock. He had suffered kidney problems for several years. But his death at the age of just 53 saw an astonishingly innovative life cut sadly short. The SS *Great Eastern* (originally named *The Leviathan*) – designed by Brunel to sail nonstop to Australia – was soon to make its maiden voyage.

Brunel would also never see his Clifton Suspension Bridge finished. It opened in 1864 after an effort by fellow engineers, Sir John Hawkshaw and William Barlow, to complete it as a tribute to his memory. At the time, it had one of the longest spans of any bridge in the world.

The later generations that didn't lose out by investing in any of Mr Brunel's projects are in a far better position to appreciate his achievements. You can argue as much as you like about his position in the hit parade of all-time Great Britons, but most would agree it would be somewhere near the top. ⊙

ALAMY X1, BRIDGEMAN ART LIBRARY X1, SUPERSTOCK X1, CLIFTON SUSPENSION BRIDGE ARCHIVE X1, GETTY X1



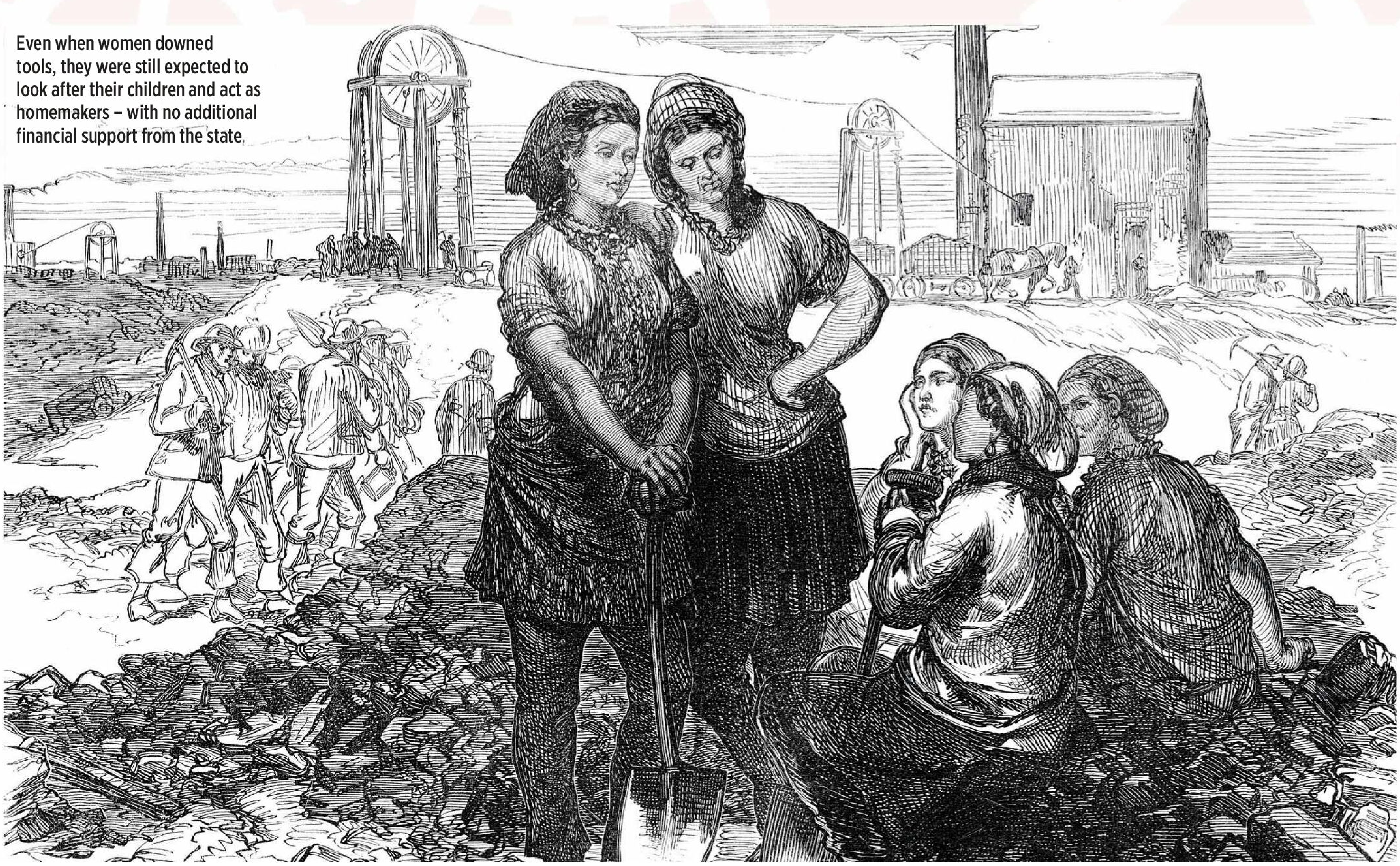


> “MY AMBITION, OR WHATEVER IT MAY BE CALLED (IT IS NOT THE MERE WISH TO BE RICH), IS RATHER EXTENSIVE… BE THE FIRST ENGINEER AND AN EXAMPLE FOR FUTURE ONES.”
>
> - DIARY ENTRY, 1827

POWER DRESSER

Brunel always wore his **iconic silk hat**, even when travelling in his carriage. “It is warm and airy, and you cannot improve upon it,” he once said. He also claimed it would afford his head some protection by collapsing under the weight of any objects falling on him. It was his equivalent of the modern **engineer’s hard hat**. The suspicion must also remain that, at 5’3”, he also wore it because it **improved his stature**.

Brunel’s last years are hampered by ill health, which is likely compounded by his stressful work. It is while inspecting the SS *Great Eastern*, which he poses in front of here, that he suffers the stroke that kills him in 1859



Even when women downed tools, they were still expected to look after their children and act as homemakers – with no additional financial support from the state

FROM FAMILY TO FACTORY

The Industrial Revolution saw thousands of women enter the workplace alongside men – but it was far from emancipatory

The Industrial Revolution caused a dramatic shift in women's roles in society. Before industrialisation, the household would have been the centre of production, and women's work largely confined to the domestic sphere, but no less physical for it. Tasks such as fetching water, and tending livestock would have kept women as busy as clothing and feeding a family, while many also took other work into their home such as hand-spinning or weaving. Cottage industry, as it was called, didn't entirely end with the arrival of large-scale manufacturing, but the advent of machinery had an irreversible impact on women's lives.

As machines replaced individual labour and burgeoning industries needed coal, women became part of the growing working classes that laboured in mines and mills. In the late 18th century, many families would seek employment together, with husband, wife and children all working at the same factory or pit, while for many single women, taking a job outside the home offered the chance of greater independence.

But women were seen as less physically strong and skilled than men and were paid less. Many employers were quick to exploit this cheaper option, and soon, tasks such as printing and working at spinning machines that didn't require as much strength and were easy to learn, became seen as 'women's labour'.

WORK-LIFE IMBALANCE

Despite the disparity in pay, the conditions in many factories were no less dangerous for women. They could work as many as 80 hours in a week, were offered few breaks, and often served inedible food. In 1832, 23-year-old Elizabeth Bentley was interviewed by a parliamentary investigation into conditions for textile workers. She described working in the card room of a flax mill near Leeds. "It was so dusty,

A late 19th-century image shows a group of 'pit lasses', employed to work at the surface of coal mine. An earlier law had explicitly banned women from working below ground

GETTY IMAGES X4

the dust got up my lungs, and the work was so hard… I got so bad in health, that when I pulled the baskets down, I pulled my bones out of their places."

As well as the long hours and physical demands of factory labour, the domestic roles traditionally viewed as women's work continued – unpaid. Tasks such as cooking, cleaning and childcare still needed to be carried out. Perhaps unsurprisingly, few employers were understanding. Bentley described a practice known as 'quartering': "If we were a quarter of an hour too late, they would take off half an hour; we only got a penny an hour, and they would take a halfpenny more."

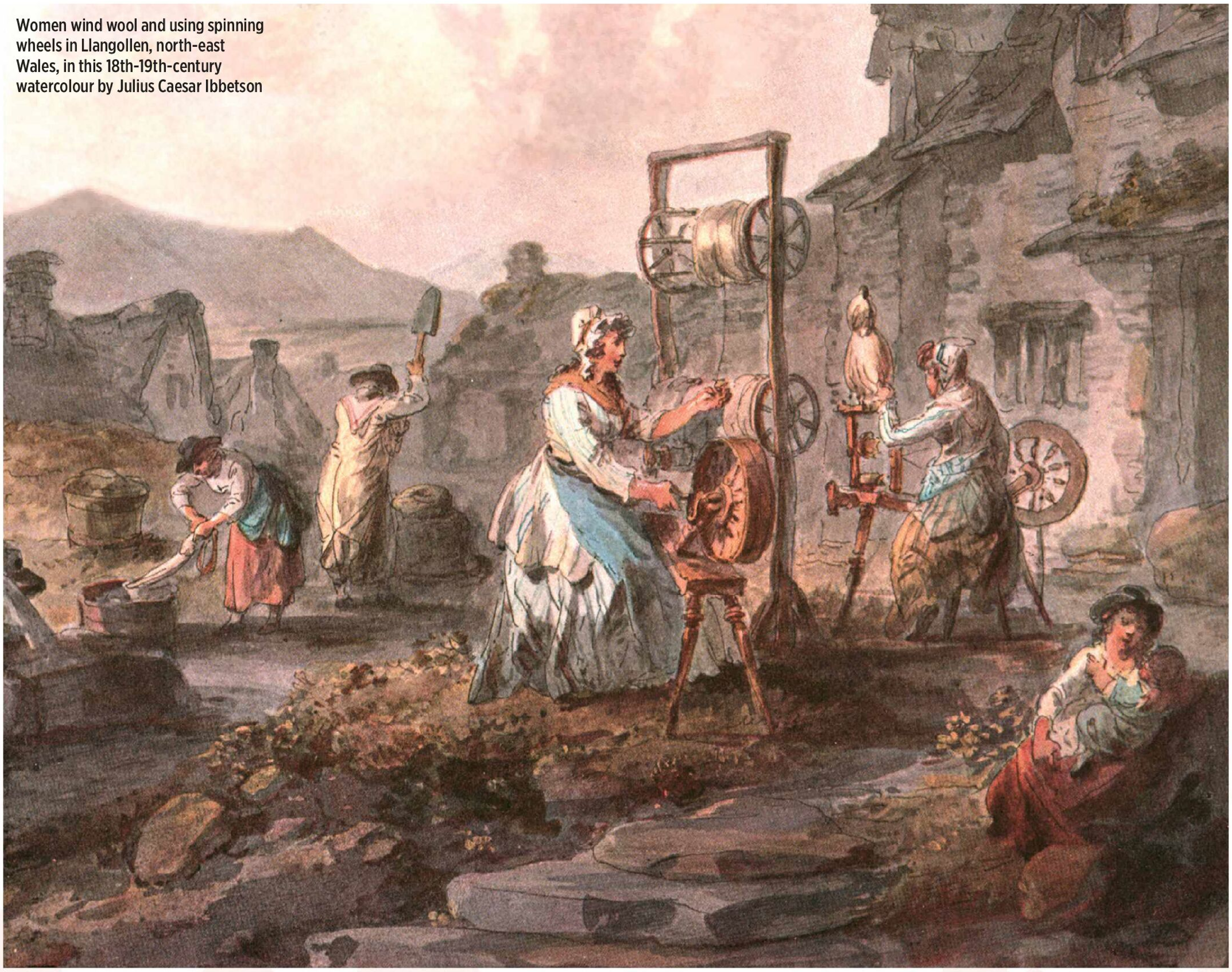
Another common role was in the mines of Lancashire and Yorkshire, where women laboured underground alongside men in physically demanding roles until the mid-19th century.

Isabel Wilson, a 38-year-old coal putter (someone who pushed tubs of coal from the coal face to the pit eye) was interviewed as part of Lord Ashley's Mines Commission of 1842. She told how the dual roles of having children and producing for a family came with immense hardship. "When women have children thick [fast] they are compelled to take them down early. I have been married 19 years and have had 10 bairns; seven are in life," she said. One job carrying coals "caused me to miscarry five times from the strains, and was gai ill after each. Putting is no so oppressive; last child was born on Saturday morning, and I was at work on the Friday night."

But jarringly, it was not such testimony in Lord Ashley's report that caused the most public outcry. Pushing carts underground was hot work, and both young men and women would strip to the trousers in efforts to keep cool. One small detail in the report noted that some women were working topless alongside men. Outrage in the press fuelled a belief that mining girls were being corrupted by their surroundings, and making bad wives and mothers. It was of no matter that the investigators found just one pit where females worked without tops (the Hopwood pit at Barnsley, which was labelled "a nursery for juvenile vice"). It wasn't long before the Mines and Collieries Act of 1842 had banned women from underground work to protect their health and morals.

But ultimately, as legislation forced more women away from the workplace for better or worse, ideas of gender evolved to match this new dynamic; men who went out to work were seen as breadwinners and providers, and by the mid-19th century the female ideal had become that of mother, moral guardian and homemaker. ⊙

WORDS: ELINOR EVANS



Women wind wool and using spinning wheels in Llangollen, north-east Wales, in this 18th-19th-century watercolour by Julius Caesar Ibbetson

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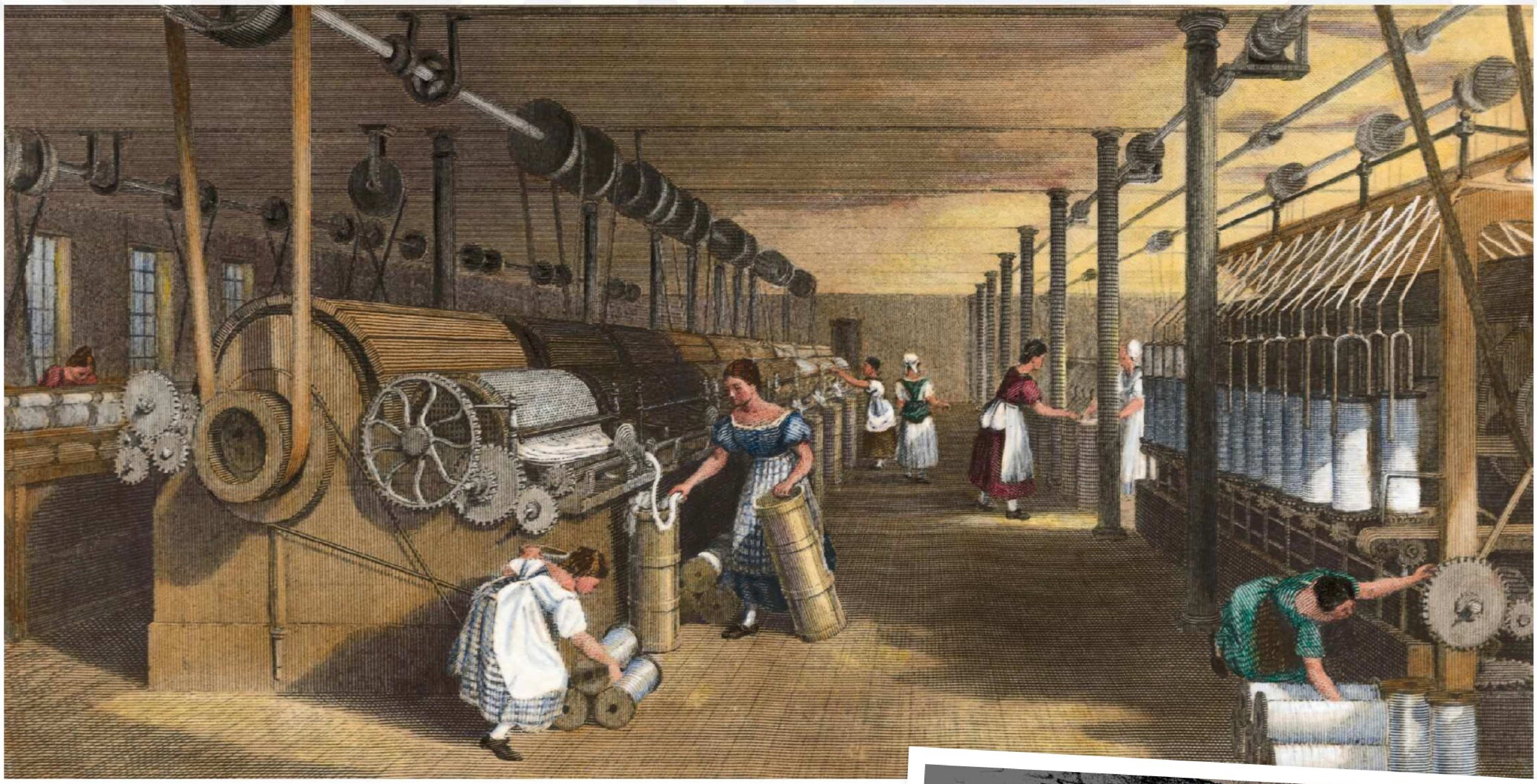
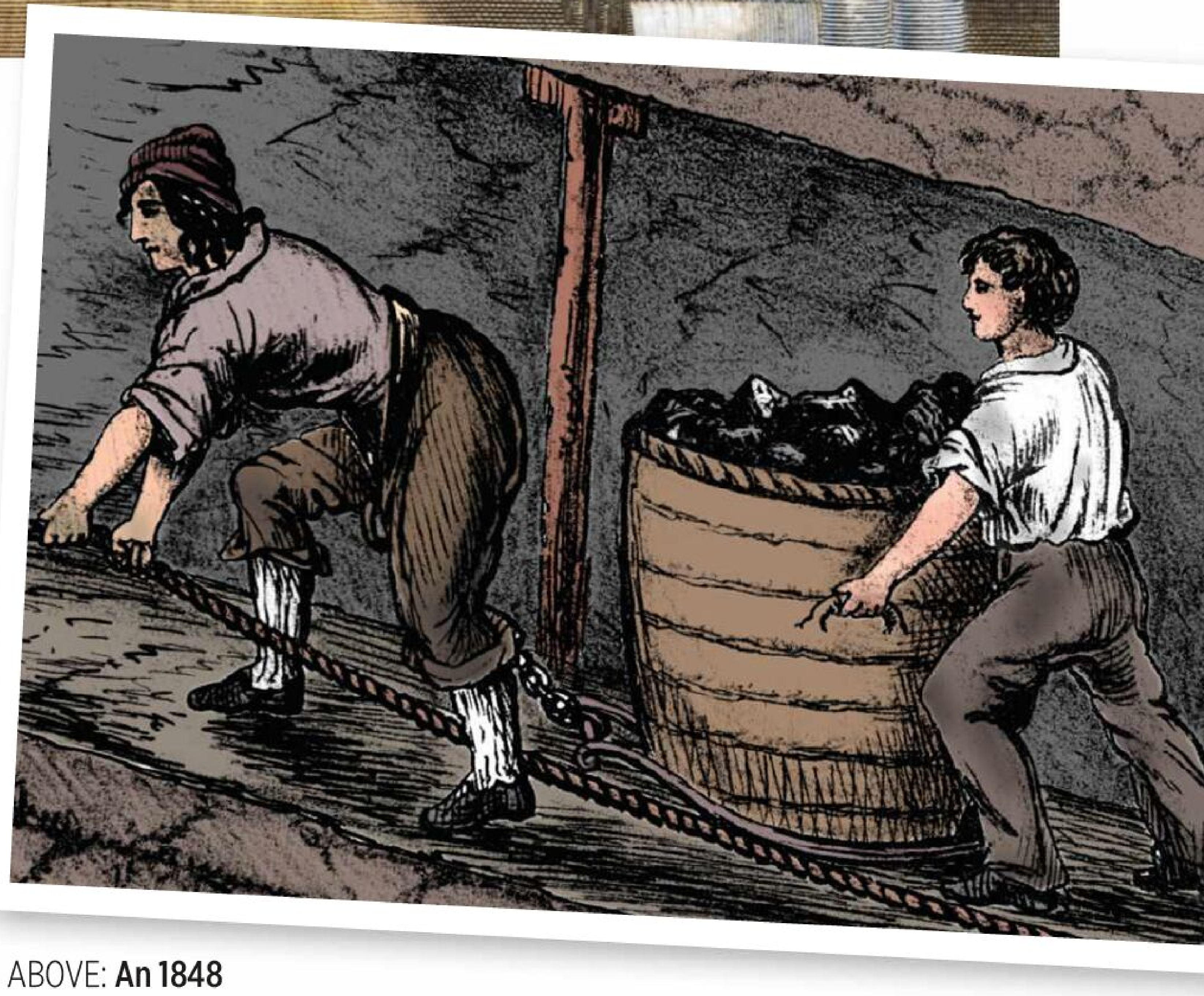




CHILDREN OF THE REVOLUTION

Britain's mills and mines were only too willing to exploit the labour of the youngest members of society

ABOVE: **An 1848 illustration depicts a young boy helping a woman haul a sack of coal through a mine shaft. Children were often made to work inside confined spaces due to their small size**

TOP: **An engraving shows workers inside the carding room of a textile mill, c1835. Despite the bright and breezy appearance of this scene, mills were far from glamorous**

GETTY IMAGES X3

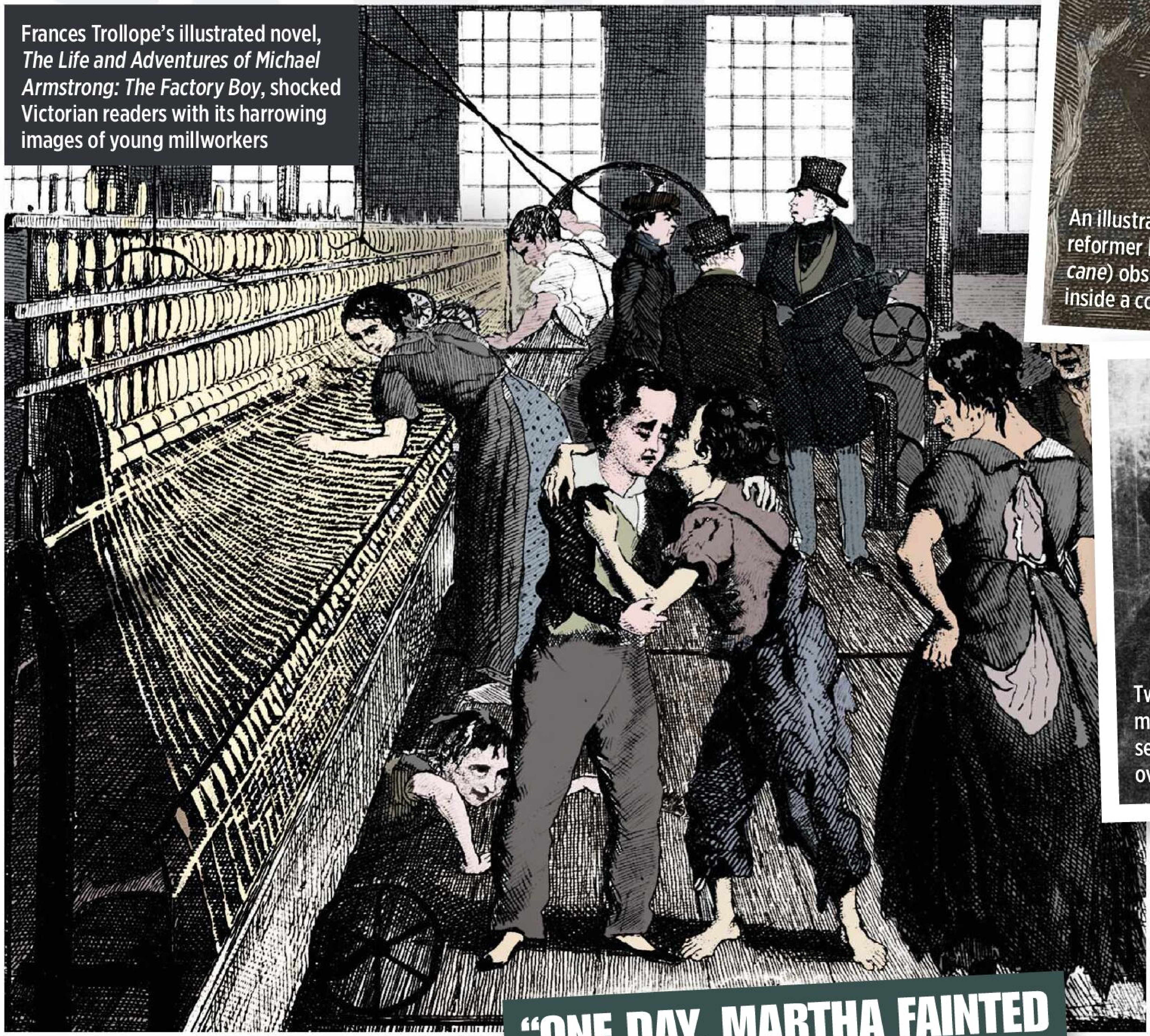
Child labour was an essential raw material for the success of the Industrial Revolution, a key component of the growing prosperity of the age's entrepreneurs. The workforce was cheap – or free, in the case of orphans and children from poor families offered so-called 'parish apprenticeships' – and emotionally malleable. And it was in shockingly high supply. By 1821, almost half of Britain's labour force was below the age of 20.

Before industrialisation, any children who were employed were mostly engaged in agriculture, usually in roles that didn't require particular strength or serious physical effort; bird-scaring was a common vocation. However, come the Industrial Revolution, the demands on this junior workforce became much higher. As historian Emma Griffin notes in her book *Liberty's Dawn: A People's History of the Industrial Revolution*, it was open season: "Early industrial Britain was a booming economy with an insatiable appetite for strong backs and nimble fingers."

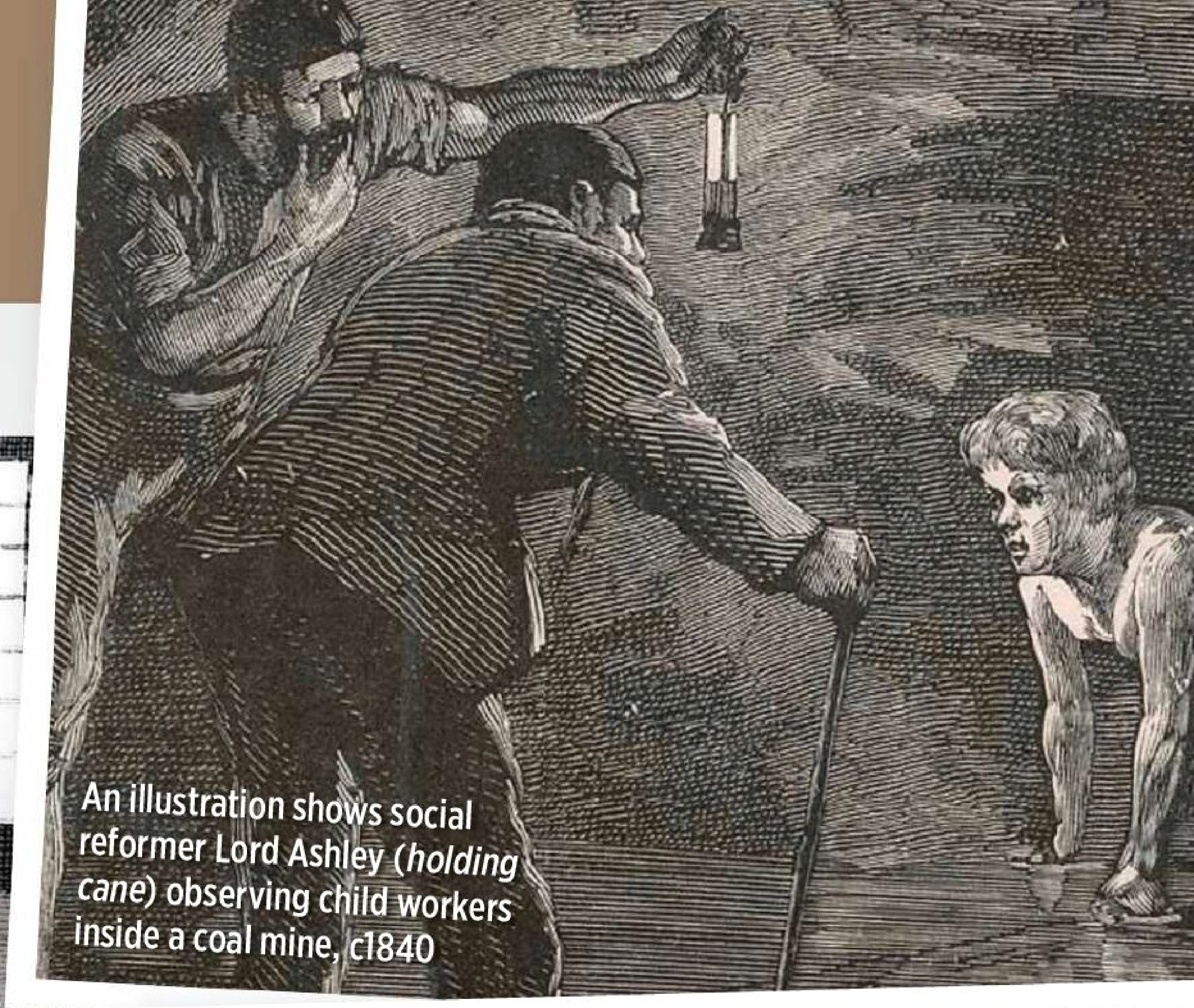
There were clear benefits to employing children in the smoky factories and dark satanic mills of the Industrial Revolution. In the textile mills, children were small enough to squeeze under the moving machinery in order to keep it clean from dirt and grime. Those employed underground in coal pits might be utilised in tunnels and shafts that no adults could fit through, operating ventilation doors in pitch-black darkness. Similarly, other children might find their size capitalised upon when it came to chimney sweeping, being sent into narrow spaces as 'climbing boys', a pursuit often carried out naked as the pockets of their uniforms would fill with soot, making their passage, already awkward, much more difficult.

RISKING LIFE AND LIMB

The average age of a child worker in the pre-industrial era was around 10, although this varied widely between regions. In order to keep up with the demands of the new heavy industries, the working age significantly lowered when the factories and mills opened. The opportunities were welcomed by factory owners and hard-up families alike; at ▶



Frances Trollope's illustrated novel, *The Life and Adventures of Michael Armstrong: The Factory Boy*, shocked Victorian readers with its harrowing images of young millworkers



An illustration shows social reformer Lord Ashley (*holding cane*) observing child workers inside a coal mine, c1840

Two young employees from match-making firm Bryant & May, seen shortly before going on strike over working conditions in 1888

> **"ONE DAY, MARTHA FAINTED AND CAUGHT HER HAND IN THE WHIRRING MECHANISM, WHICH SEVERED ALL FIVE FINGERS. SHE WAS SACKED"**

◀ the time, a third of families defined as poor didn't have a main breadwinner. As Emma Griffin observes, "many working parents, who remembered the gnawing hunger of their own childhood only too well, grasped eagerly at these opportunities. The outcome? Children were thrust into the workface at ever younger ages."

Industrialisation not only drove down the average age that children started work (it was as low as eight and a half in the early 19th century), but it also placed them in more dangerous working environments, and thus in significantly greater jeopardy. Those working in glass factories could be blinded; match girls worked with toxic chemicals. Injuries were common and fatalities were far from unknown.

In 1859, 13-year-old Martha Appleton was working in a textile mill in Wigan as a scavenger, the term used for those children whose job was collecting loose cotton that had collected under fast-moving machinery. One day, Martha, presumably as the result of the long hours, fainted and caught her hand in the whirring mechanism, which severed all five fingers. With only one usable hand, she was summarily sacked by the unsympathetic mill owner. In a way, Martha was fortunate. There are examples of scavengers being crushed to death while going about their work.

THE ROAD TO REGULATION

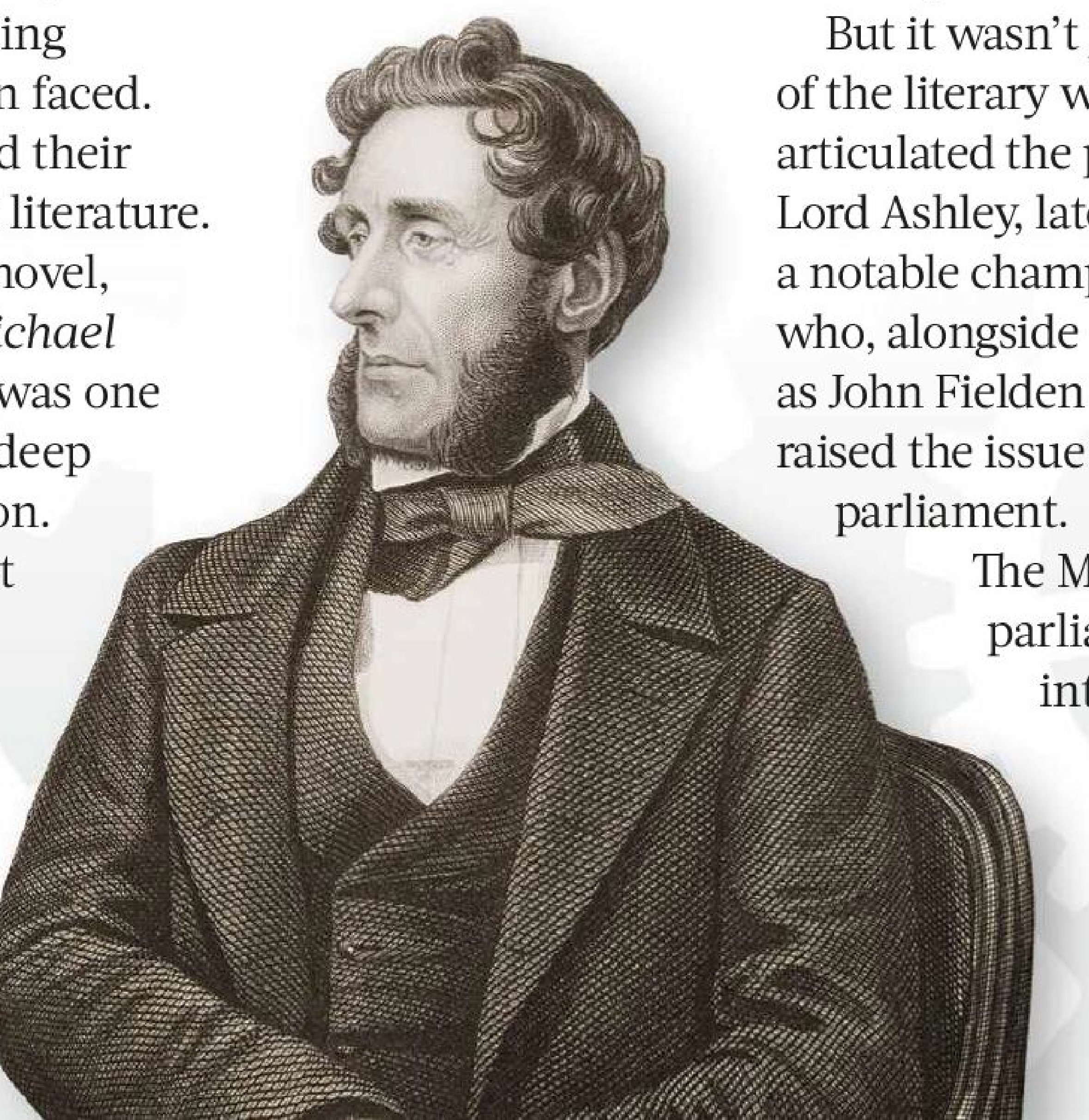
As the goldrush of heavy industry continued to gather momentum, voices of dissent began to gather, railing against the conditions children faced. One way these voices delivered their message was through popular literature. Frances Trollope's illustrated novel, *The Life and Adventures of Michael Armstrong: The Factory Boy*, was one such publication that made a deep impact on the wider population. Told in monthly parts that cost a shilling apiece, Trollope's book might have been fictional, but it drew directly from the sharp and harsh experiences of the children of the Industrial Revolution. She explained that the purpose of her unfolding tale of this fictional Mancunian child was to "place before the eyes of Englishmen, the hideous mass of injustice and suffering to which thousands of infant labourers are subjected, who toil in our monstrous spinning mills". Telling of very real pain and exploitation, the book did indeed become a crucial tool in the fight to improve the working conditions of all factory and mill workers, but children in particular.

Trollope was far from the only novelist to present the grim reality of the Industrial Age to middle-class Victorian readers. Charles Kingsley's *The Water Babies* questioned the ethics behind child labour, while the harsh conditions of factory life became a recurring theme in the novels of Charles Dickens who had, as a 12-year-old boy, been forced to work in a blacking factory after his father was imprisoned in a debtors' jail.

But it wasn't just celebrated members of the literary world who highlighted and articulated the plight of the child worker. Lord Ashley, later Earl of Shaftesbury, was a notable champion of children's rights who, alongside other campaigners such as John Fielden and John Cam Hobhouse, raised the issue in the chambers of parliament.

The MP Michael Sadler led a parliamentary commission into child labour, looking at both the ethics and the children's treatment. Legislation

Lord Ashley, later Earl of Shaftesbury (1801–85), was an ardent supporter of child labour reforms



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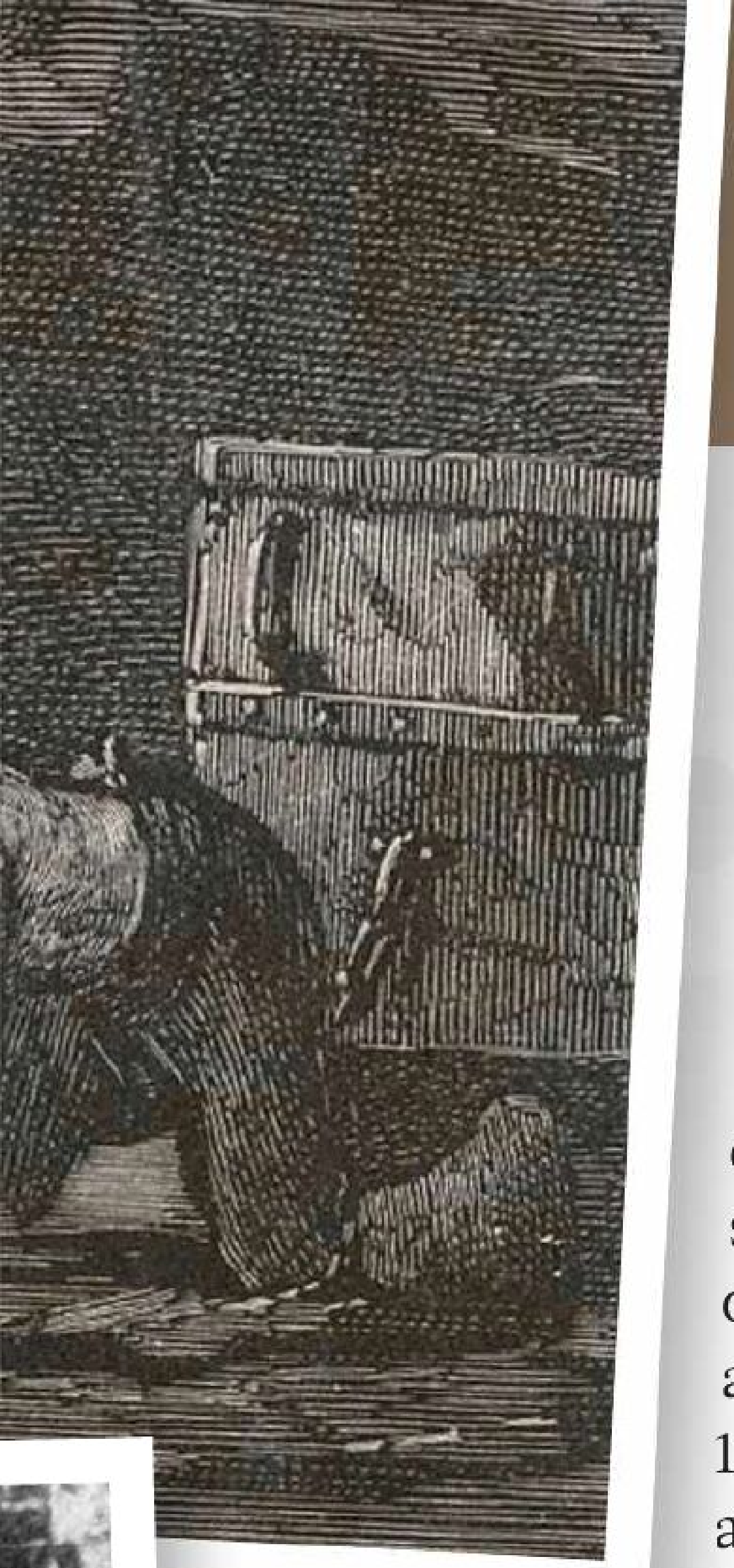


was drawn up, namely the Factories Regulation Bill, which sought to outlaw the employment of children under the age of nine, to limit work shifts to a maximum of 10 hours for those aged between nine and 18, and to eliminate altogether night work for those under 18.

Speaking in the House of Commons during the bill's second reading in March 1832, Sadler expressed the urgent need for the legislation "to liberate children and other young persons employed in the mills and factories of the kingdom from that over-exertion and confinement which common sense, as well as long experience, has shown to be utterly inconsistent with the improvement of their minds, the preservation of their morals, or the protection of their health: in a word, to rescue them from a state of suffering and degradation which, it is conceived, the children in the industrious classes in hardly any other country endure, or ever have experienced, and which cannot be much longer tolerated".

Sadler's Factories Regulation Bill or Ten Hours Bill, which recommended limiting the working day for children in the ways outlined above, as well as allowing each child two hours of educational instruction every day, was never passed, but it did – along with a similar bill put forward by Lord Ashley – form the basis of the Factory Act 1833, which itself included most of these provisions. Initially, these strictures were difficult to enforce, despite the act appointing factory inspectors to uphold its demands. Factory owners would lie about the ages of their employees, while their record-keeping when it came to hours worked were often economical with the truth.

AN END TO SUFFERING

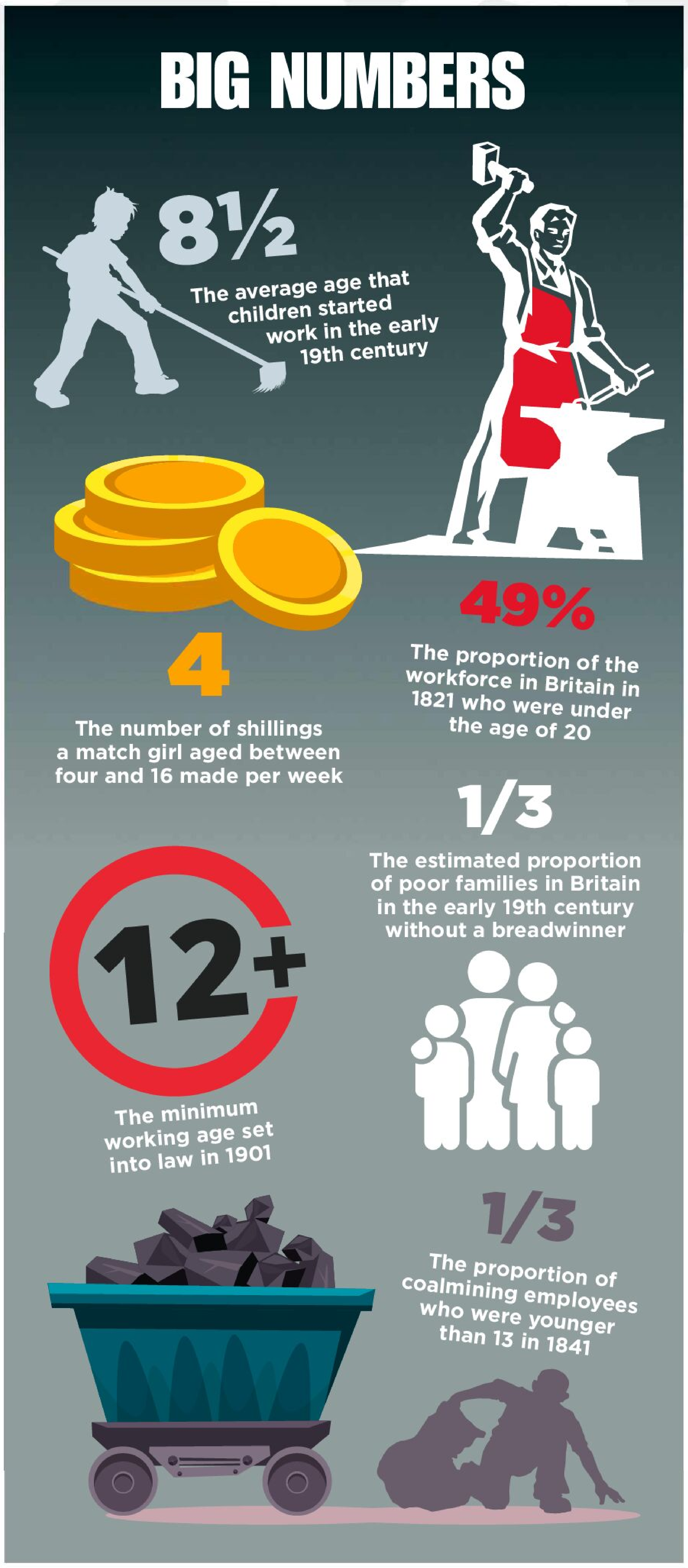
Over time, though, thanks to a steady stream of further legislation, conditions for Britain's child workforce – at least those working in the textile industry – steadily improved. The Factory Act of 1844 put a further cap on the lengths of the shifts worked by those between the ages of eight and 13: this was now set at six and a half hours per day. Three years later, another act brought the daily amount for 14 to 18 year olds down to a maximum of 10 hours. In 1867, the legislation that had been drawn up specifically for the textile sector was applied to other factories where 50 or more people were employed, and brought regulation to other specified industries, even if the industrialists themselves were reluctant to enforce it. These unscrupulous owners were increasingly on the wrong side of history, denounced by Karl Marx in an 1864 address as being "vampire-like", their businesses living "by sucking blood, and children's blood too".

Regulation significantly contributed to declining numbers in child labour, as did the rise of trade unions as workers showed more willingness to organise collectively. Technology played an important part, too. Not only did it increasingly require employees with a decent level of education, but the rise in automation removed many menial tasks hitherto carried out by a factory's youngest employees.

The emphasis was now on education, previously the preserve of the offspring of the wealthier classes. In 1870, the Education Act laid the foundations for a compulsory, state-funded education system for all children, helping to remove them from the danger and ill treatment they encountered on the factory floor. The tide had turned. Children, previously seen as an exploitable, low-cost workforce, were now regarded as individuals in their own right. In 1889, the National Society for the Prevention of Cruelty to Children was established and, a dozen years later, the minimum working age in Britain was raised to 12. The littlest children would suffer no more.

WORDS: NIGE TASSELL

BIG NUMBERS



8½
The average age that children started work in the early 19th century

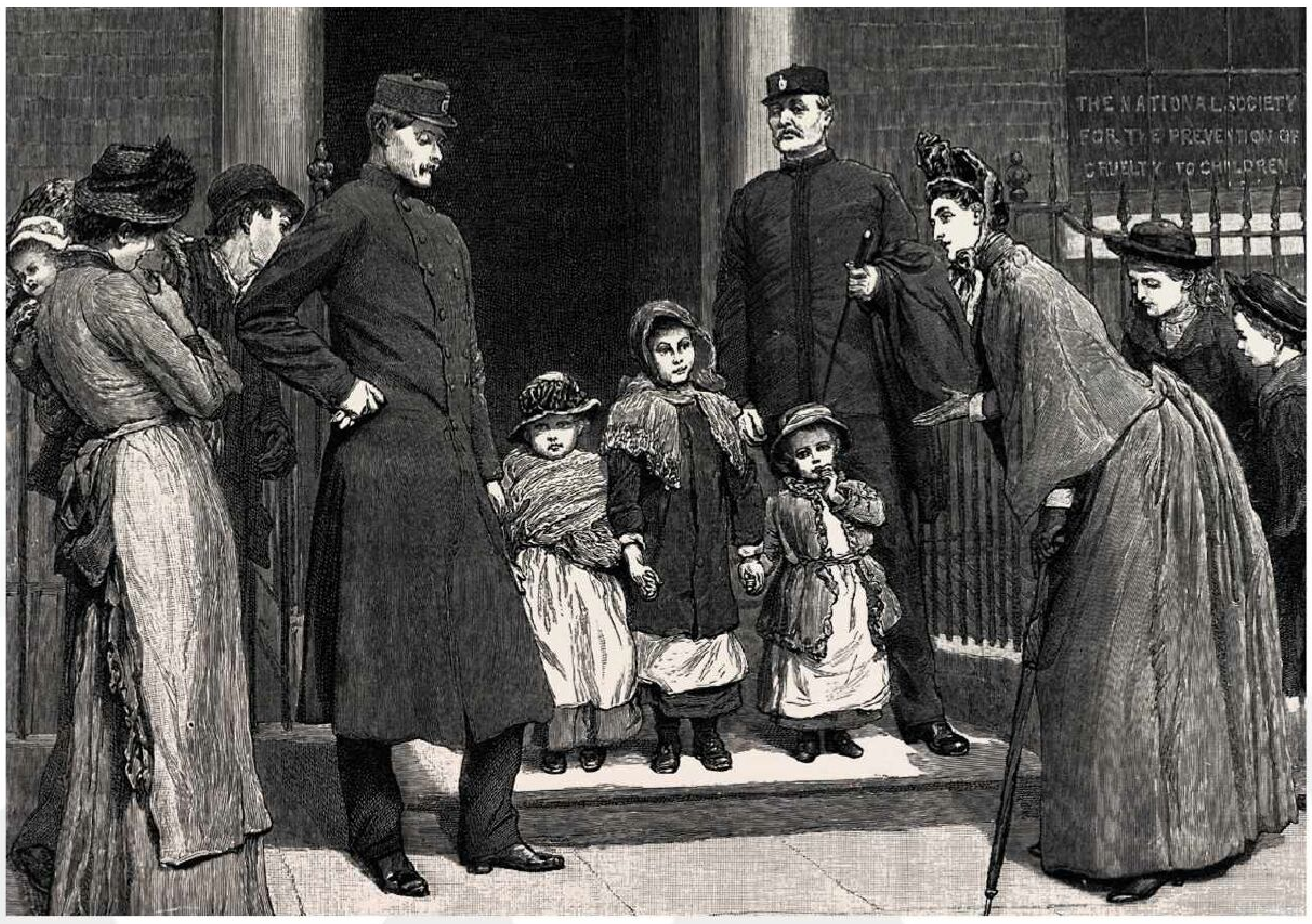
49%
The proportion of the workforce in Britain in 1821 who were under the age of 20

4
The number of shillings a match girl aged between four and 16 made per week

1/3
The estimated proportion of poor families in Britain in the early 19th century without a breadwinner

12+
The minimum working age set into law in 1901

1/3
The proportion of coalmining employees who were younger than 13 in 1841



An 1889 illustration shows three girls being taken into the care of the National Society for the Prevention of Cruelty to Children, having been found begging

INDUSTRY STATS: PROGRESS AND ITS PRICE

Production and populations in Britain surged during the Industrial Revolution, but at the cost of the workers

WORKER CONDITIONS

1/5

By the early 1860s, an estimated one-fifth of workers in Britain's textile factories were younger than 15

4

The number of inspectors appointed to investigate the thousands of factories across Britain after the Factory Act of 1833

50%

According to one study, real wages, adjusted for inflation, increased 50 per cent between 1830 and 1875

12

The maximum number of hours a day that could be worked by children aged nine to 16, as outlined by the 1819 Factory Act

TRANSPORTATION

>7,000

The amount, in miles, of rail track across Britain by 1852

4,000

The number of miles of canal in Britain at the peak of 'canal mania'

25

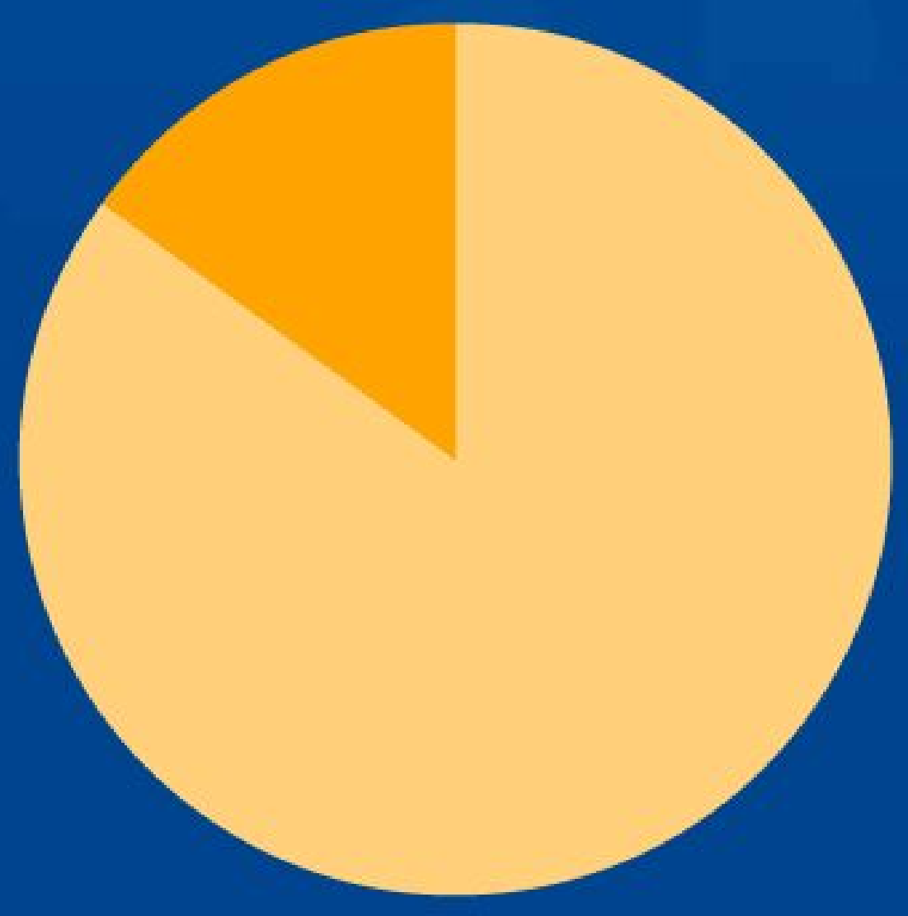
The length, in miles, of Britain's first railway line, built by the Stockton and Darlington Railway company and opened in 1825

GETTY IMAGES X14

POPULATION

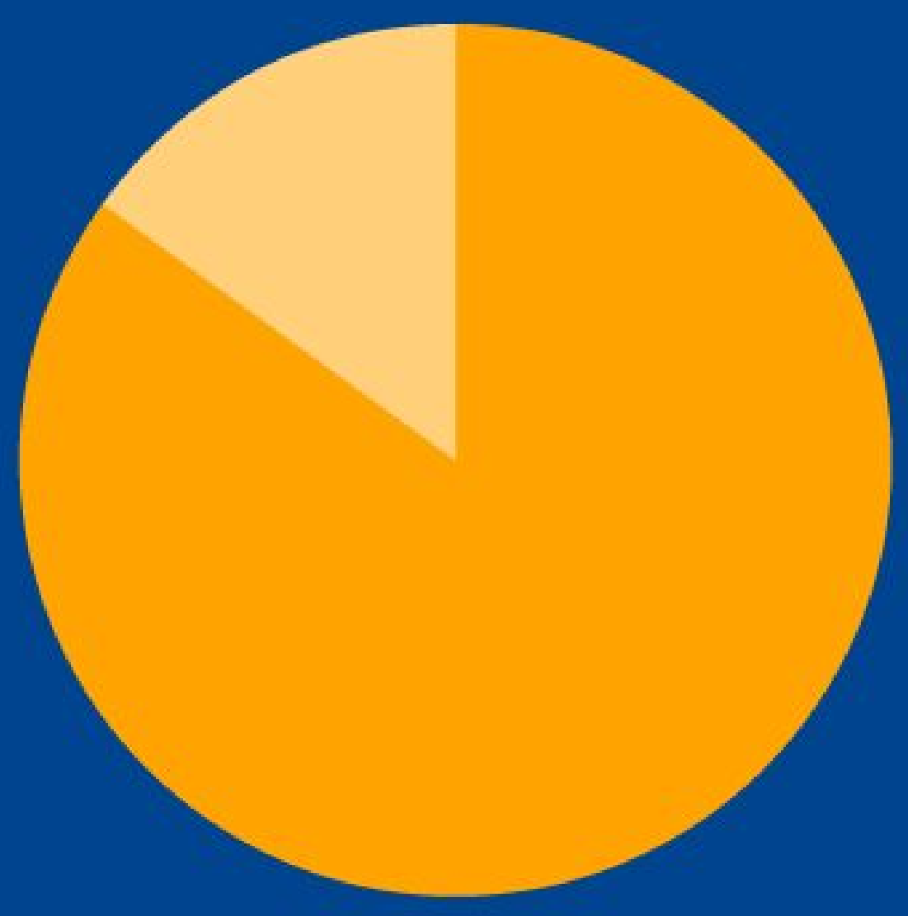
15%

The proportion of the English population living in urban areas in the mid-18th century



85%

The proportion of the English population living in urban areas by 1900



11,000,000

The approximate British population in 1801 – compared with around 5–6.5 million a century earlier.

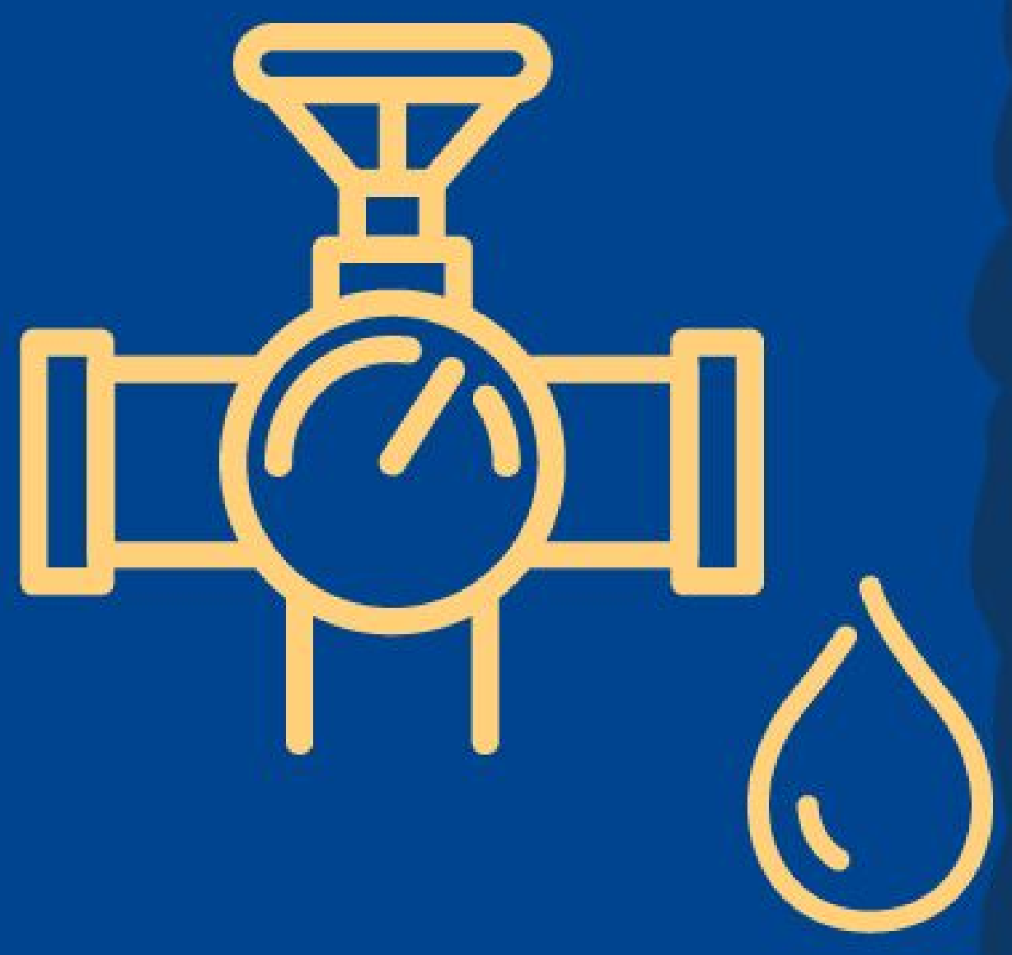
PUBLIC HEALTH

15

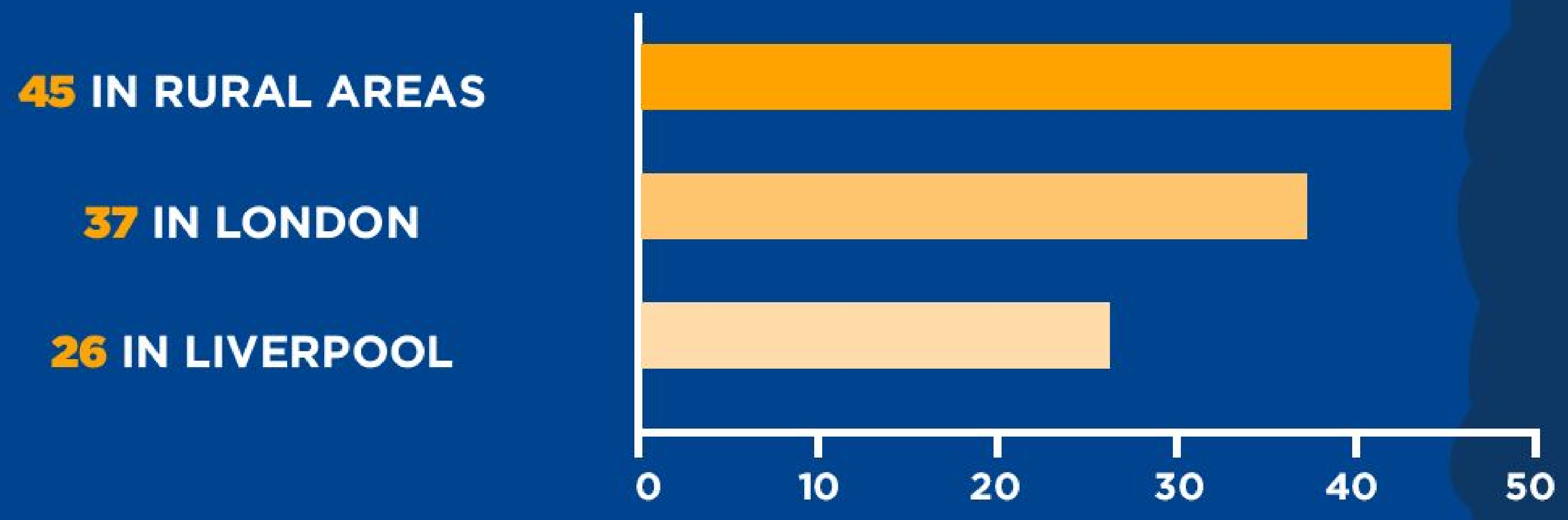
The average age of death for a factory worker in Liverpool in 1840

11,000

The number of houses in Manchester, out of 47,000, with a piped water supply in 1847



LIFE EXPECTANCY IN ENGLAND IN 1841:



PRODUCTIVITY

2,000

The number of steam engines thought to have been at work in Britain by 1800

128

The spinning jenny, invented by James Hargreaves, could spin 128 threads at a time

260,000

The number of mechanised power looms in operation in England by 1850

62.5 million

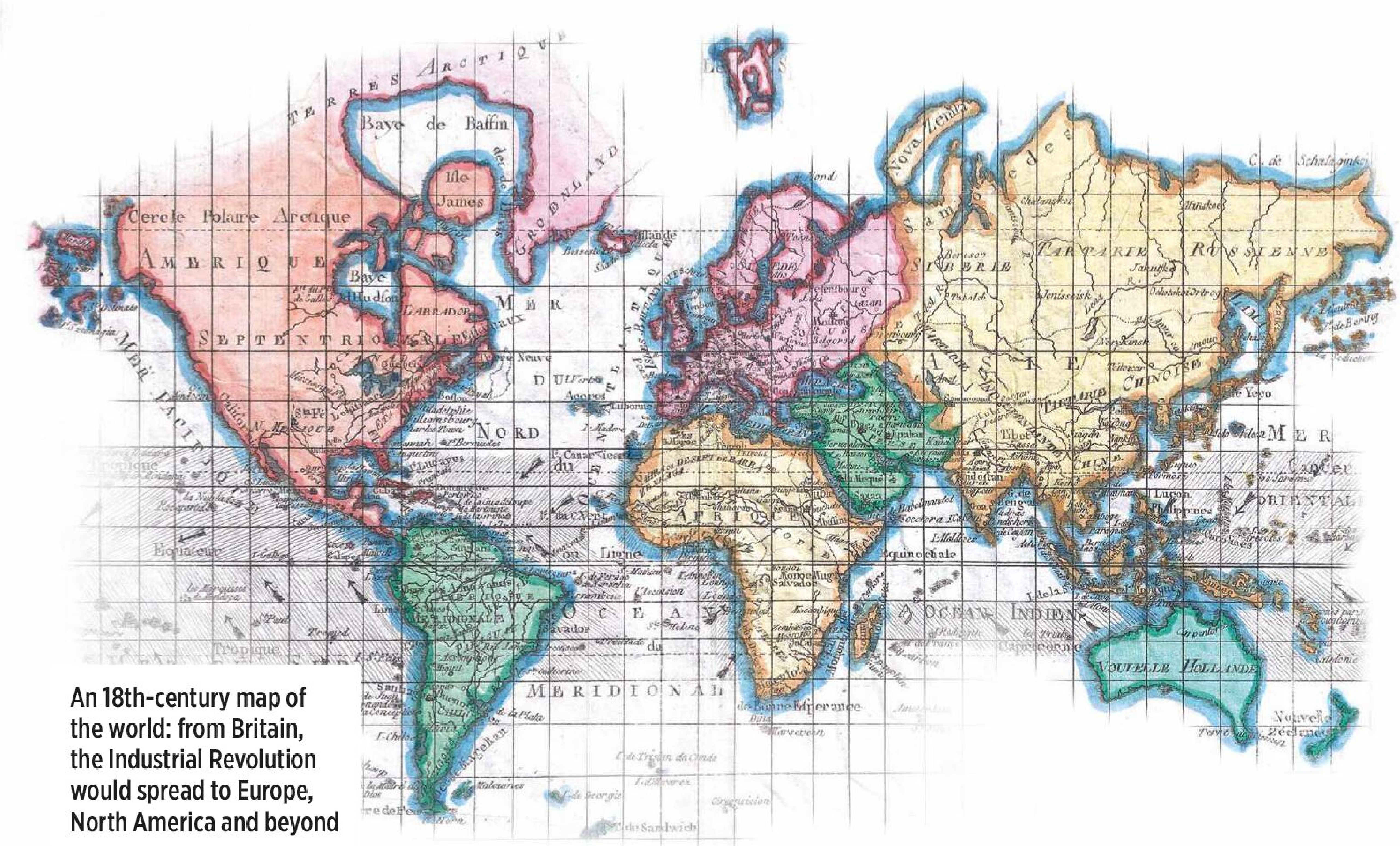
By 1850, Britain was producing 62.5 million tonnes of coal per year – more than 10 times the amount being produced in 1750

HOW THE REVOLUTION SPREAD FROM BRITAIN

Professor Emma Griffin reveals how British innovations would ultimately pave the way for global industrialisation

The Industrial Revolution may have begun in Britain, but before long, other countries were taking notice and exploring whether they could introduce new, mechanised techniques of their own. While some followed the same pattern as Britain, the ease with which other nations could import British technology varied considerably depending on the structure of their existing industries, their available natural resources and the technical skills of their workforce.

By the end of the 19th century, alternative pathways to industrial status were emerging, although some countries stuck to their traditional manufacturing. For these, industrialisation would not begin until late in the 20th century.



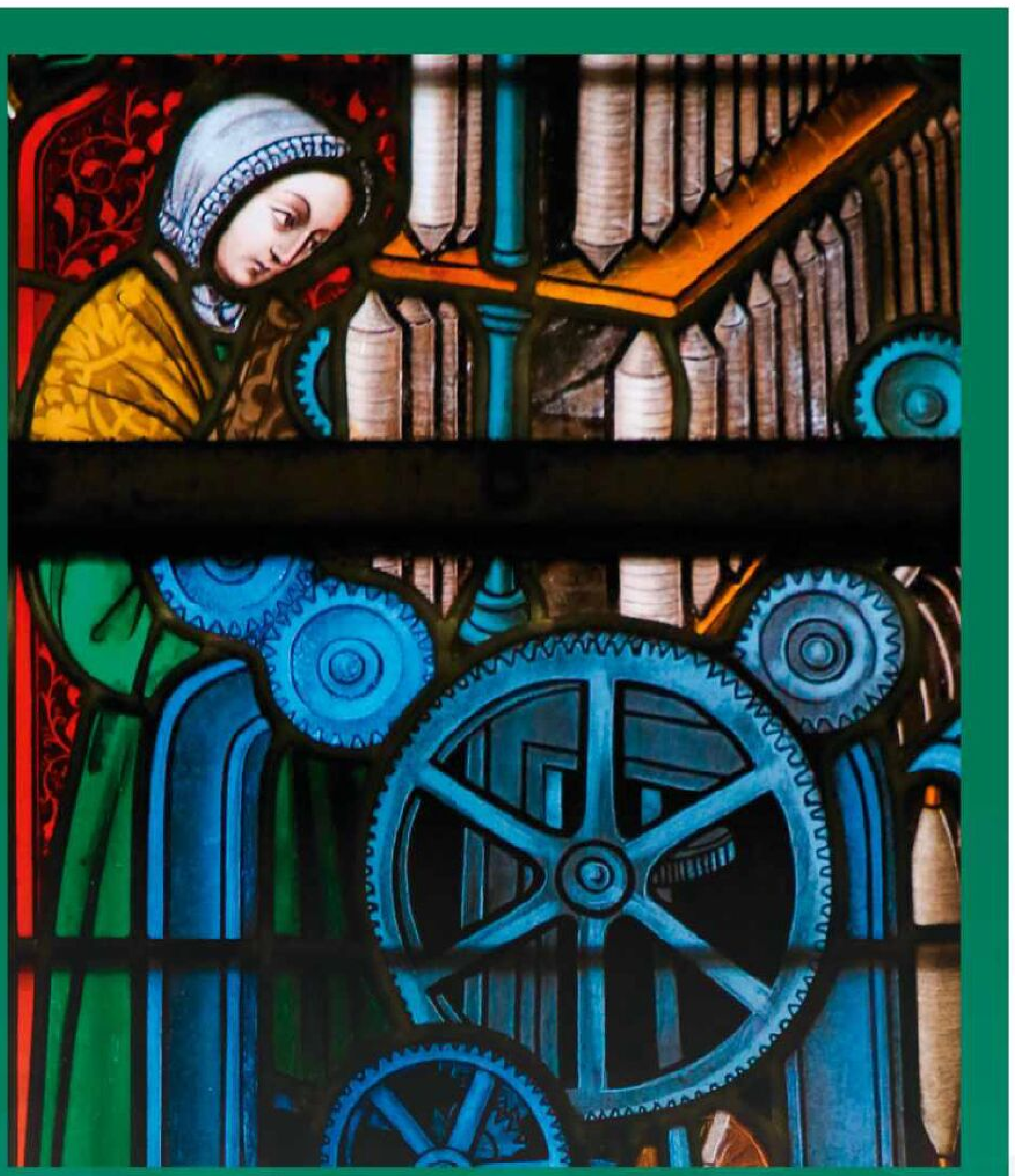
An 18th-century map of the world: from Britain, the Industrial Revolution would spread to Europe, North America and beyond

BELGIUM

Early 19th-century Belgium was a small nation by any measure, composed of nine provinces and gaining independence from the Netherlands only in 1830. Yet by then, Belgium had already taken its first decisive steps towards industrialisation, ahead of much of the continent. The economy grew rapidly in the first half of the century and – though growth was still slower than Britain – it was comfortably higher than any other European nation.

The challenge for Belgium was not the same as it had been for Britain. There was no need to invent technologies from scratch. For Belgian manufacturers, the task was to try to get hold of British machinery and install it in their own works. This was harder than it sounds as there were British laws in place prohibiting the export of machinery, yet it was ultimately something that Belgian manufacturers did to great effect.

The fact that natural resources available in Belgium were similar to those in Britain helped to lessen the technical challenges of importing machinery, and enabled Belgium to develop thriving textile and iron industries based on coal and steam power. By the 1840s, the French political economist, Natalis Briavoinne, was able to write about "*la révolution industrielle*" that was occurring in Belgium. By the mid-century, it was increasingly clear that this small northern European country was diverging from its neighbours: industrialisation was well underway.



This stained glass window in Ghent Cathedral shows a woman working at a silk mill, a sign of Belgium's thriving textile industry

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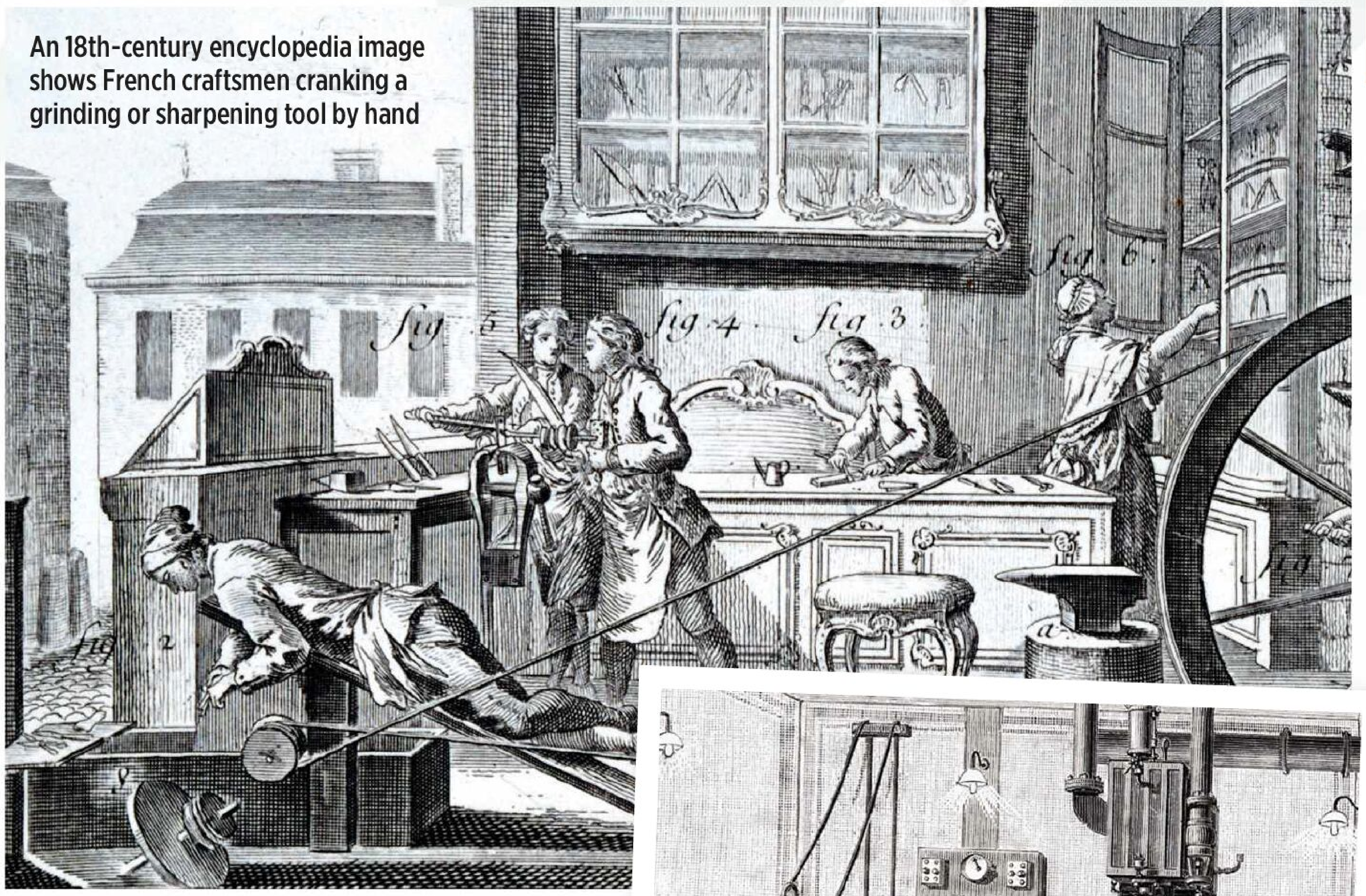
FRANCE

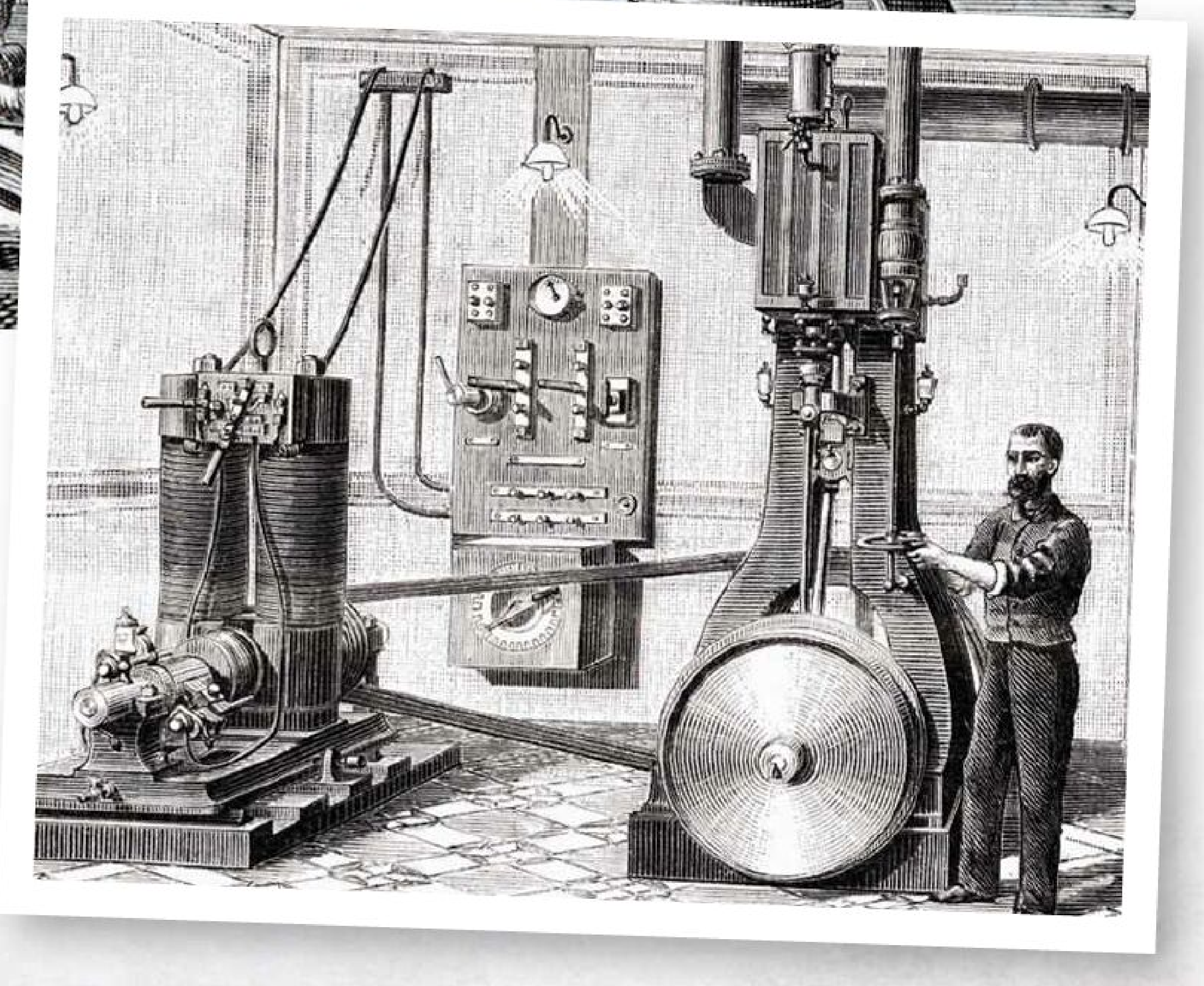


An 18th-century encyclopedia image shows French craftsmen cranking a grinding or sharpening tool by hand

Before factories and mills transformed the fate of Britain, France was Europe's powerhouse. Its landmass and population were greater than Britain's, as was its national wealth, and since the French had cultural and geographical ties with its neighbour across the Channel, they were well placed to import, adopt and imitate the latest in British technology. What's more, France was home to a thriving and sophisticated engineering sector and scientific culture.

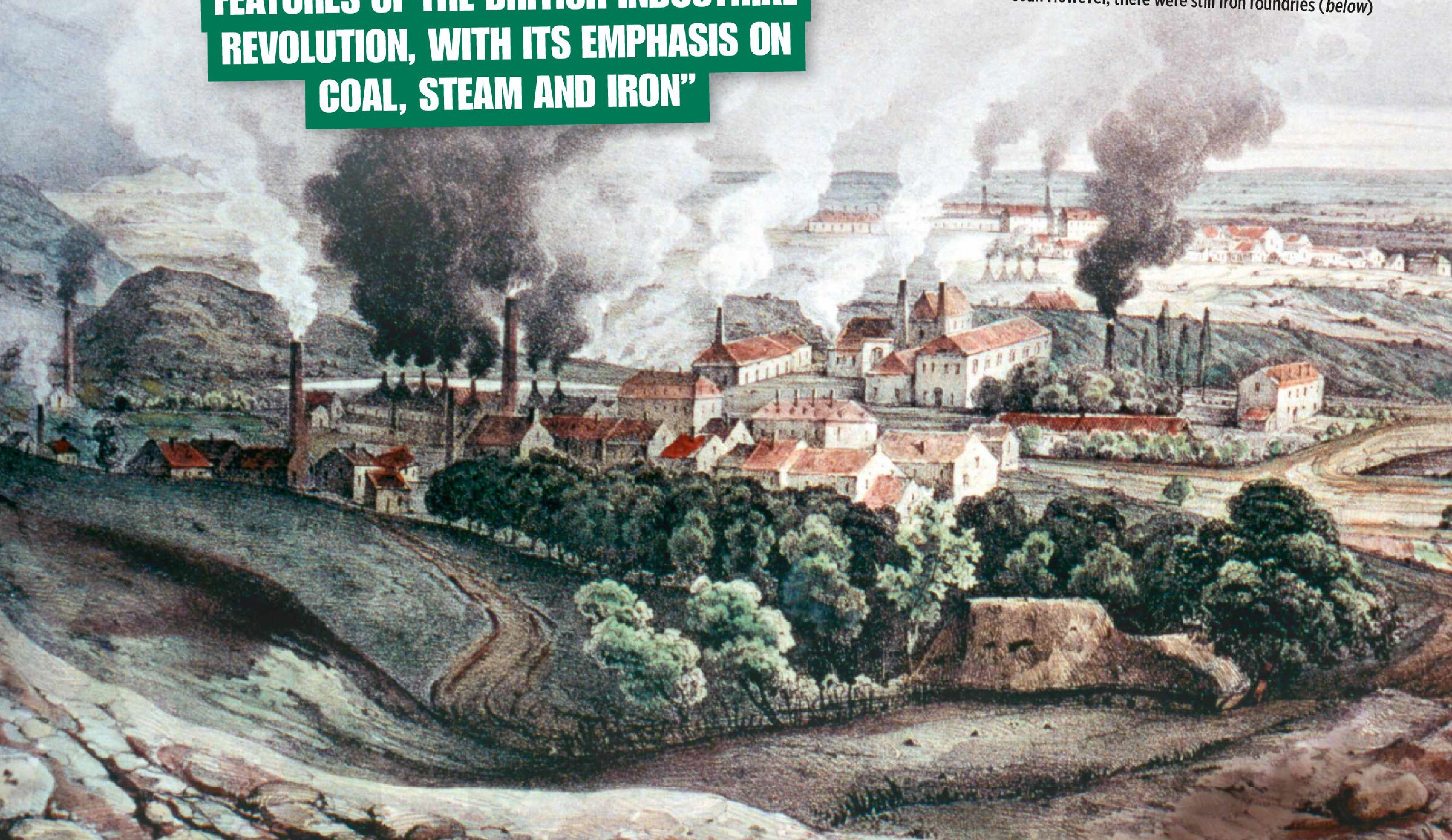
Despite these advantages, France struggled to keep pace with the economic progress in Britain. One of the chief issues was that the environment and resource base was quite different from those of Britain, where the new technologies had been invented and established. France lacked coal, which made imitation of Britain's steam-based economy far trickier. Even where manufacturers were able to get hold of British machinery, they often found that it was not economical to run owing to the high cost of coal.

It was not until the late 19th century that France found cost-effective methods to unlock a way towards industrialisation that was adapted to its strengths and needs. This was based on the energy of the rivers, through the development of electricity. As a result, France largely bypassed many of the features of the British Industrial Revolution, with its emphasis on coal, steam and iron. ▶



A late 19th-century engraving (*above*) of an electrical generator – one of the ways that French industrialisation advanced without being reliant upon coal. However, there were still iron foundries (*below*)

> **"FRANCE BYPASSED MANY OF THE FEATURES OF THE BRITISH INDUSTRIAL REVOLUTION, WITH ITS EMPHASIS ON COAL, STEAM AND IRON"**

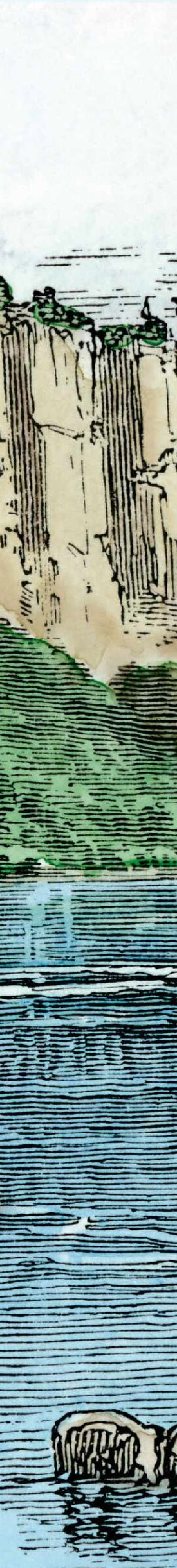


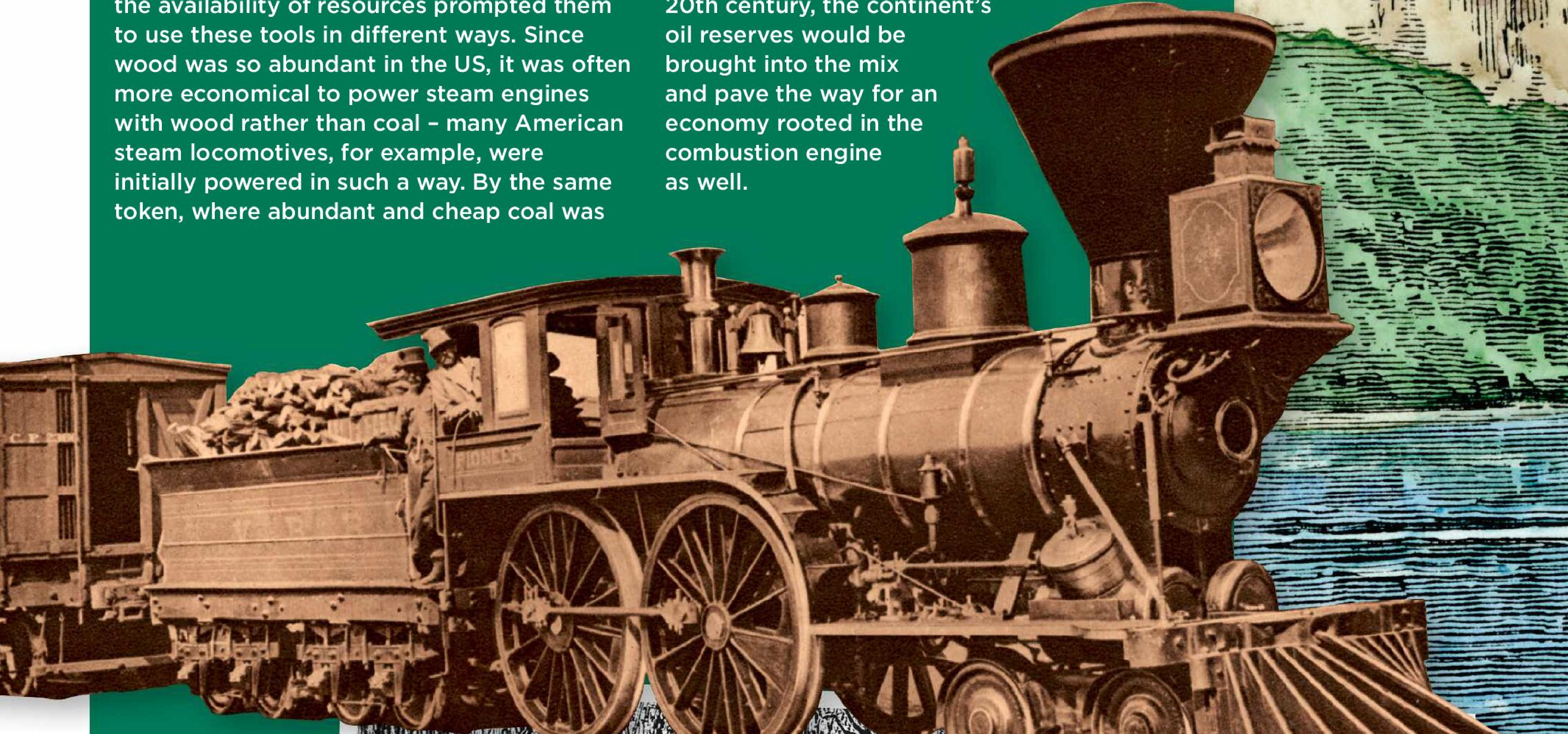
NORTH AMERICA

The United States is roughly equivalent in size to Europe. Add Canada and you have a landmass more than twice as large. Such a huge territory is always going to be home to a great diversity of landscapes, so it is not surprising that these provided the continent's inhabitants with a strong resource base for industrialisation and ensured that it took a wide variety of forms. In addition, there were close linguistic and cultural ties between Britain and North America to help ease the process of technological transfer.

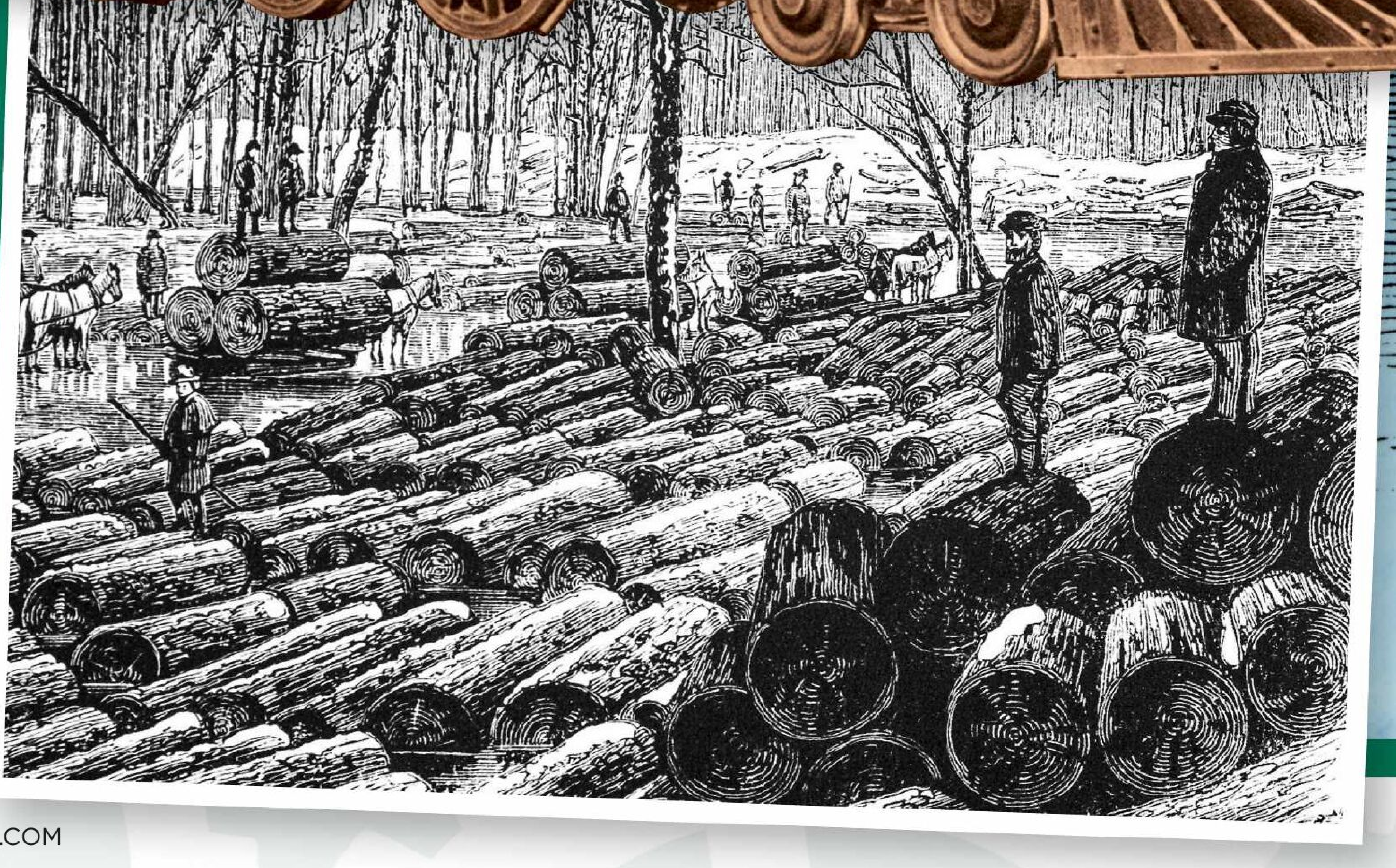
From the early 19th century, North American manufacturers were beginning to import steam engines and many other elements of British technology, although the availability of resources prompted them to use these tools in different ways. Since wood was so abundant in the US, it was often more economical to power steam engines with wood rather than coal – many American steam locomotives, for example, were initially powered in such a way. By the same token, where abundant and cheap coal was available, the fuel-saving innovations were a low priority for American manufacturers. Elsewhere, the existence of large and powerful rivers prompted manufacturers to stick with water power much longer than was the case in Britain.

Despite this considerable diversity, North America had decisively started down the road to industrialisation by the 1800s. By 1850, the economy had grown significantly, and mechanised production techniques had been introduced across a wide front. Steam engines were common, but the existence of rivers encouraged an early move into electricity production at the end of the century. During the 20th century, the continent's oil reserves would be brought into the mix and pave the way for an economy rooted in the combustion engine as well.



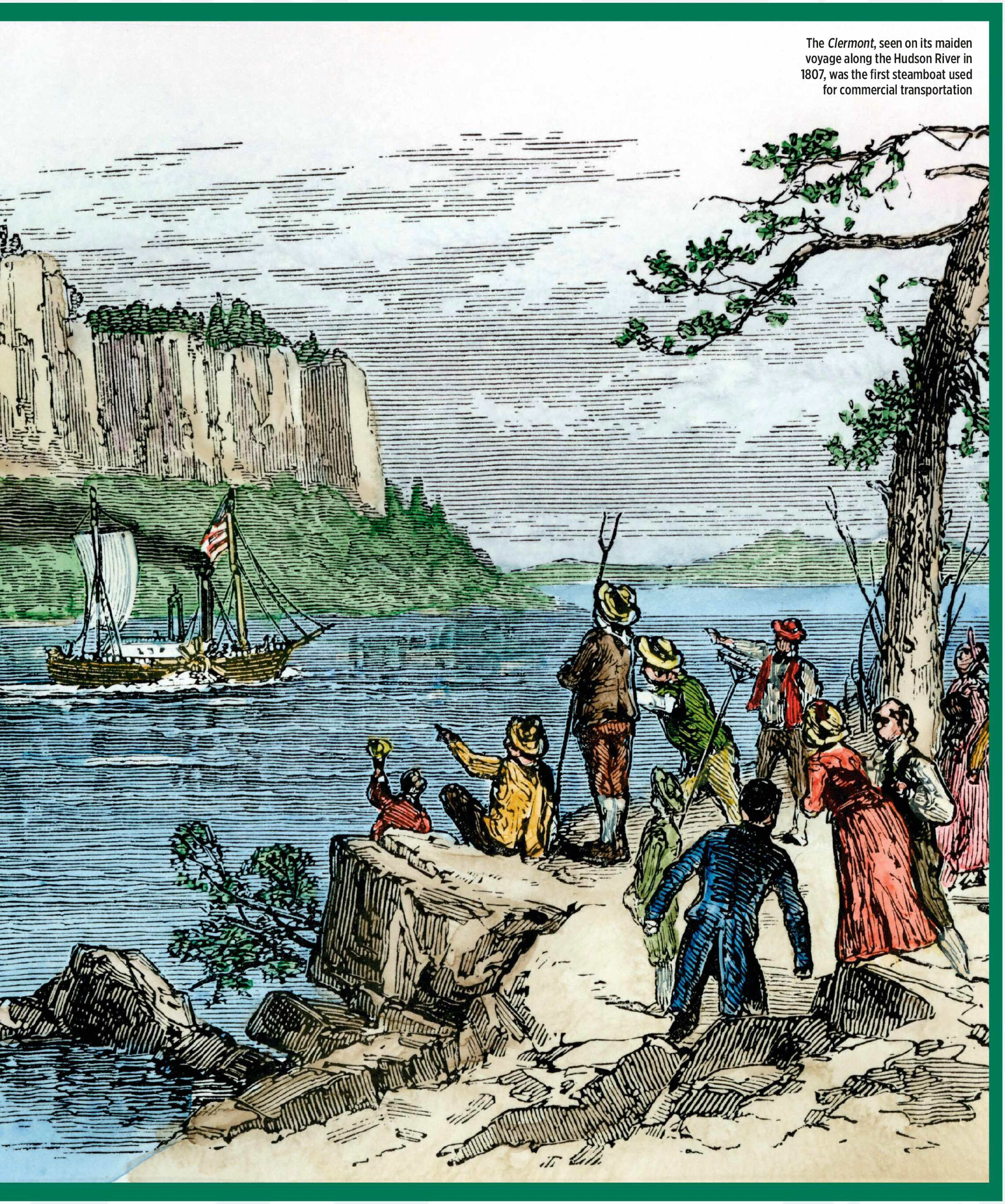


ABOVE: **The continent's early steam engines also tended to be wood-burning**



RIGHT: **A preference for using wood instead of coal inevitably led to the birth of a huge North American timber industry**

ALAMY X2, GETTY IMAGES X1



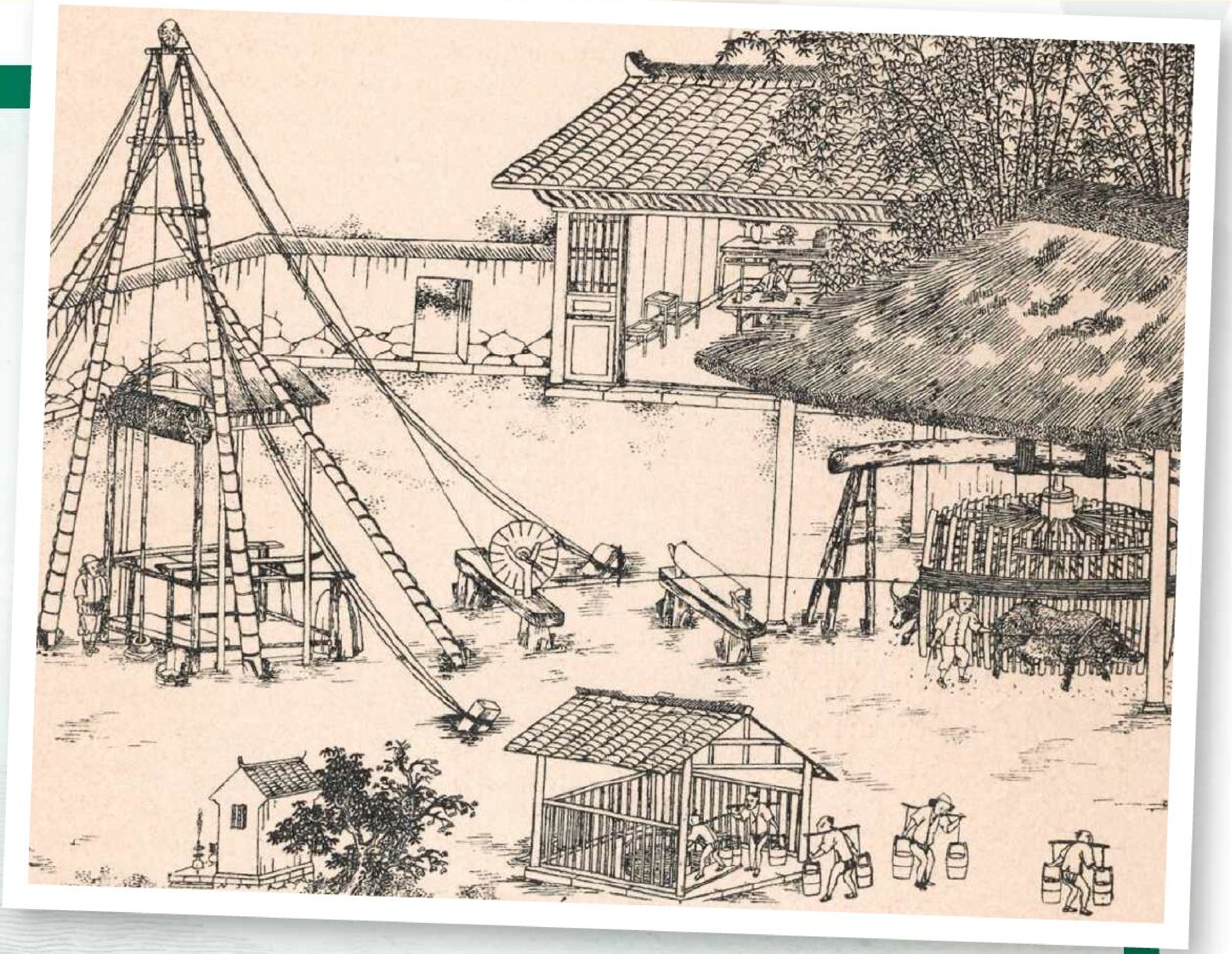
The *Clermont*, seen on its maiden voyage along the Hudson River in 1807, was the first steamboat used for commercial transportation

CHINA

Historians have struggled to explain why a nation that sat near the top of the global league at the beginning of the 19th century had lost its place by the dawn of the next. But the strength and power lay in its large population, rather than its economic achievements. With a huge workforce, China was able to produce more than the much smaller populations of other countries, although standards of living were low, and each individual family had to subsist on little.

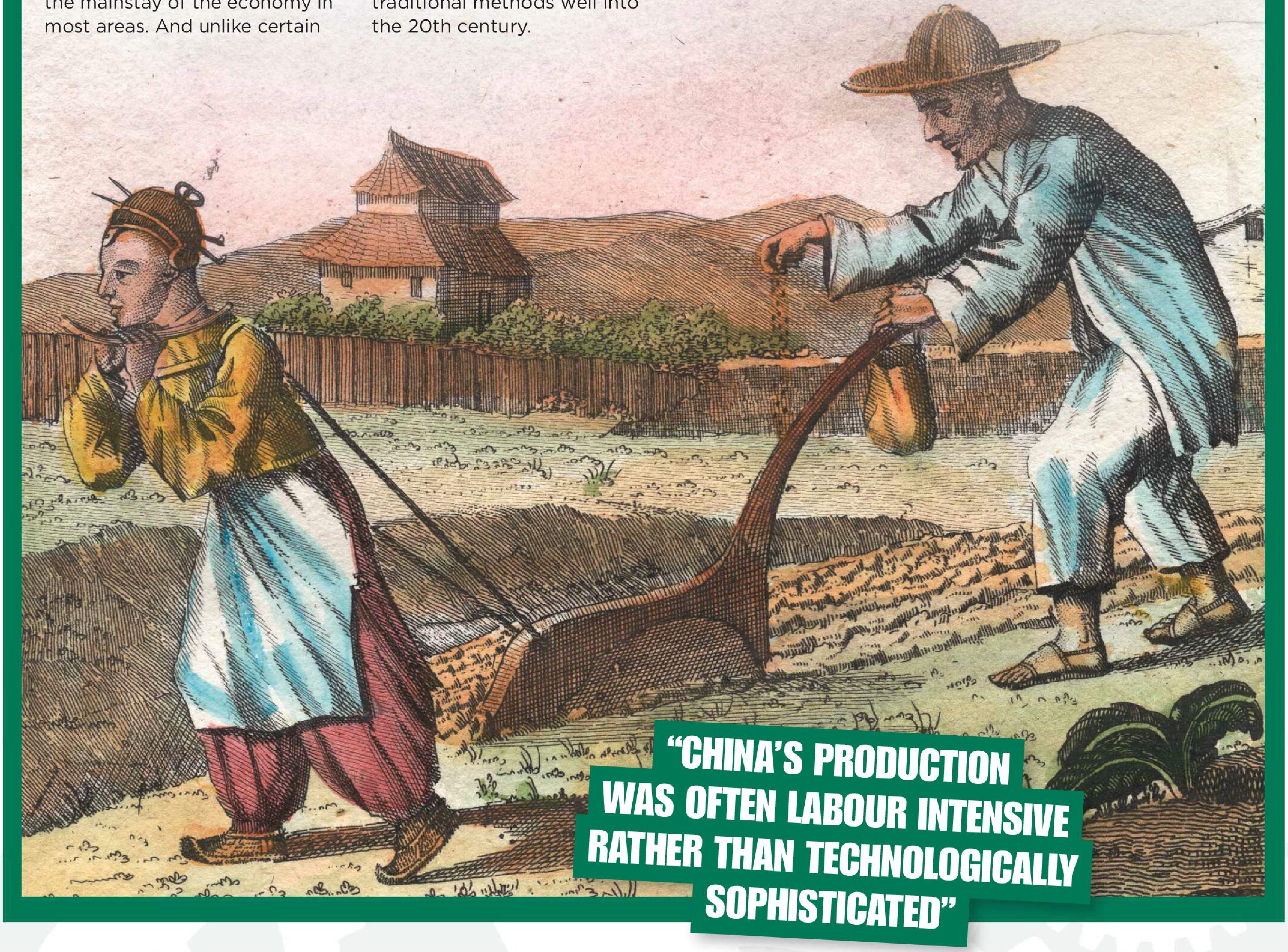
The production techniques used in China were often labour intensive rather than technologically sophisticated, and most of the population was not engaged in manufacture at all. Subsistence farming formed the mainstay of the economy in most areas. And unlike certain European countries, such as France, Italy, Portugal and Spain, which were hampered by a scarcity – in some cases a near total lack – of coal, China did possess plentiful reserves.

What the Chinese lacked was the incentive to use these reserves. Extracting coal from the ground can be complex and expensive, and new steam-powered machinery was initially costly, experimental and prone to breakdown. Most Chinese manufacturers lacked the finance, or the inclination, to make the switch to the new machinery and so continued to rely on their traditional methods well into the 20th century.



ABOVE: **A mine in 19th-century China, still using traditional, rather than industrialised, techniques**

BELOW: **China's economy continued to rely on subsistence farming**



"CHINA'S PRODUCTION WAS OFTEN LABOUR INTENSIVE RATHER THAN TECHNOLOGICALLY SOPHISTICATED"

ALAMY X3, GETTY IMAGES X2

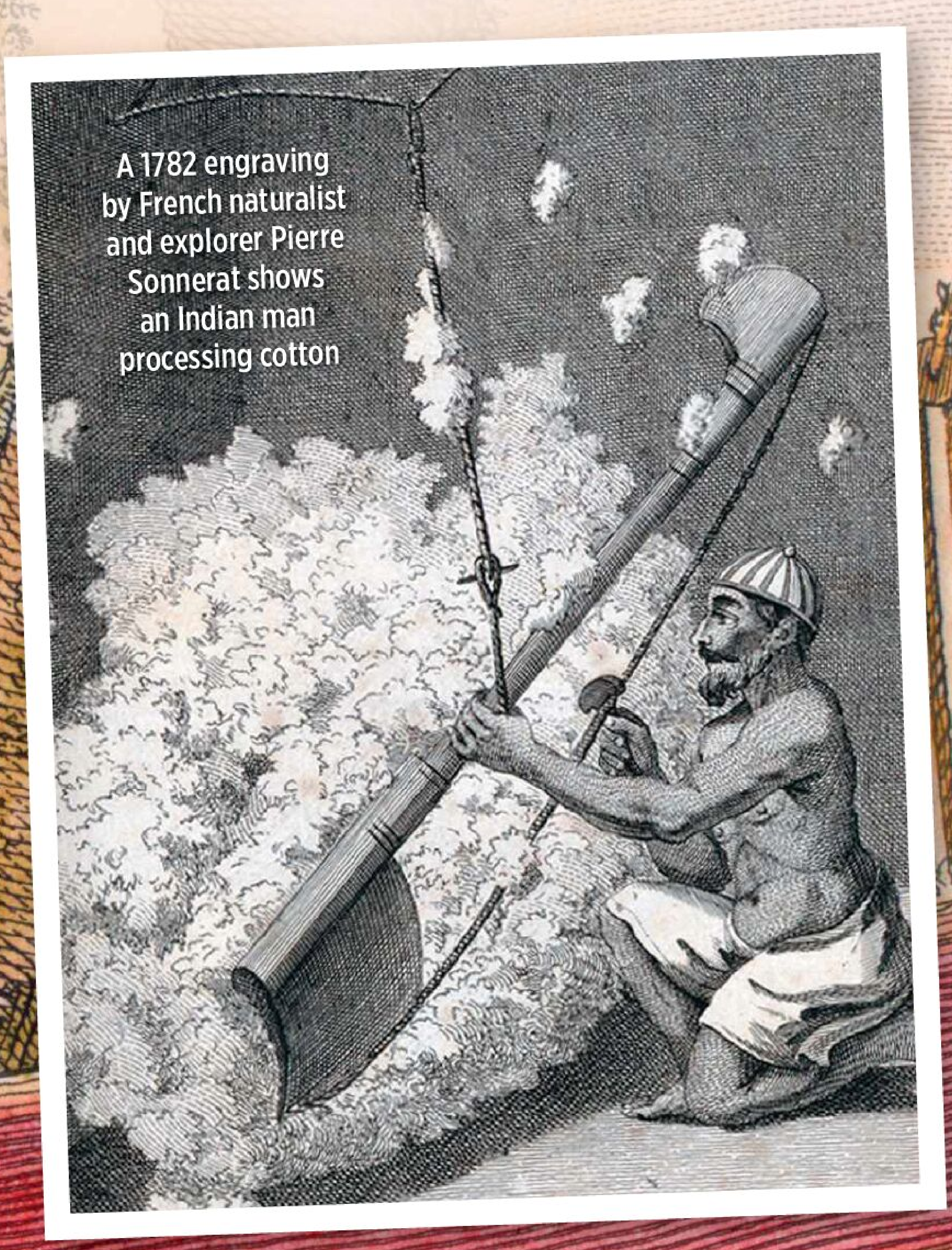
INDIA

India, much like China, was a large and wealthy country in the 18th century; and, again like China, much of its strength derived from the size of its population rather than a well-established manufacturing base. The textile industry was large, but the majority of the sorting, spinning and weaving was done by hand using traditional techniques. As the cost of labour was low in India, manufacturers had little reason to switch from these techniques and invest in costly new machines, which were unfamiliar to the workforce and liable to breakdown.

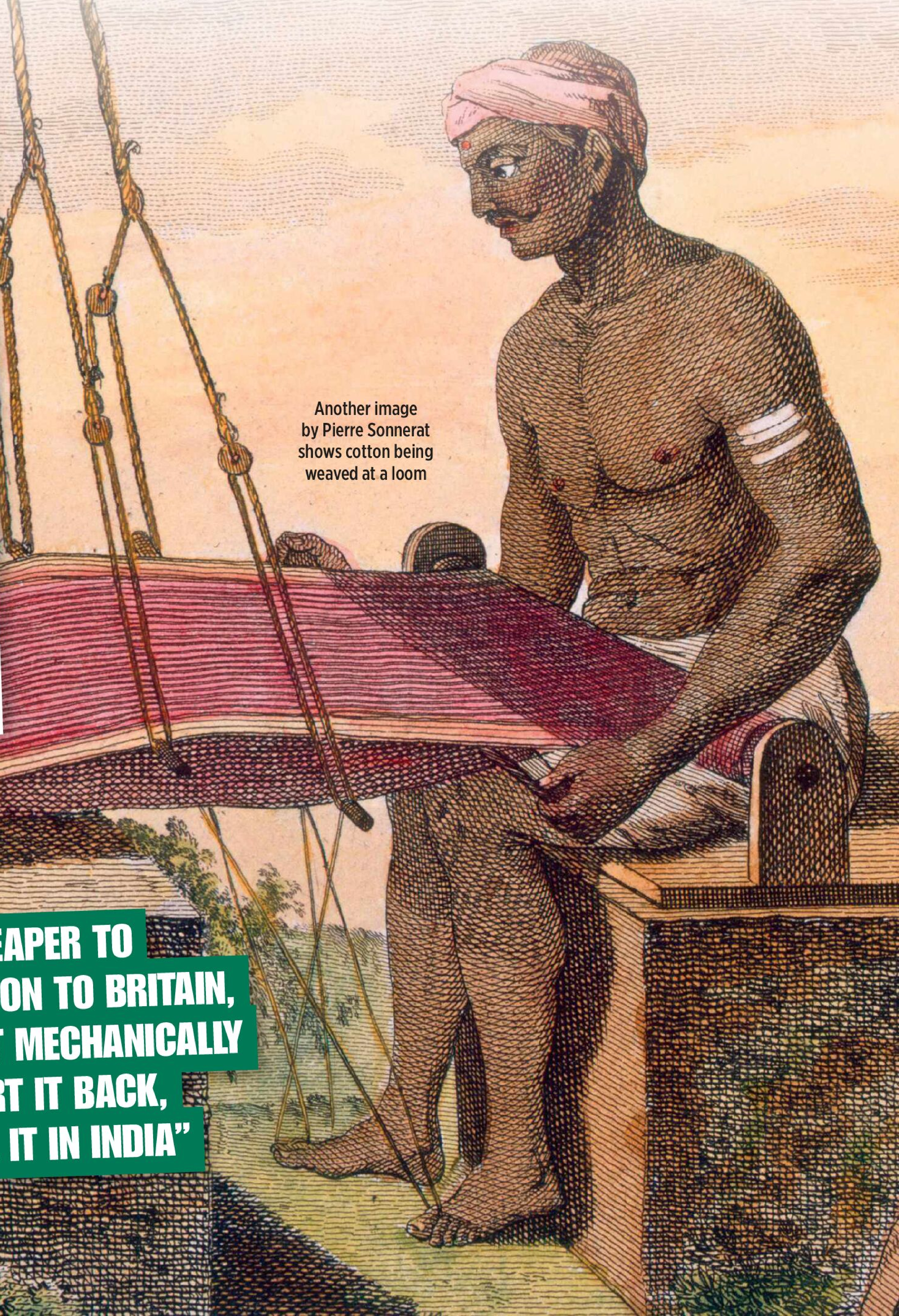
Yet, while India did not industrialise much during this period, it was powerfully impacted by events in Britain. Before the Industrial Revolution, India had traded its cotton cloth on the global market. Once Britain had switched over to mechanised production, however, the cost of its cotton cloth fell so dramatically that, by the early 19th century, it was cheaper to export raw cotton to Britain, spin and weave it mechanically and then re-export it back to India, than it was to produce it using traditional techniques in India itself. As a result, cotton manufacturing in India fell further behind Britain, making it ever more difficult for Indian industry to modernise.

The Indian experience is an important reminder of the interconnected nature of industrialisation and of the fact that the Industrial Revolution was not confined to Britain, but had important ramifications across the globe.

EMMA GRIFFIN is professor of British history at Queen Mary University of London. She is the author of five books, including *Bread Winner: An Intimate History of the Victorian Economy* (Yale University Press, 2020)



A 1782 engraving by French naturalist and explorer Pierre Sonnerat shows an Indian man processing cotton



Another image by Pierre Sonnerat shows cotton being weaved at a loom

> “IT WAS CHEAPER TO EXPORT RAW COTTON TO BRITAIN, SPIN AND WEAVE IT MECHANICALLY AND RE-EXPORT IT BACK, THAN PRODUCE IT IN INDIA”

THE SOCIAL IMPACT OF INDUSTRIALISATION

Professor Emma Griffin examines whether the general standard of living for Britain's working classes rose or fell

Ever since the term 'Industrial Revolution' entered our vocabulary around the turn of the 20th century, historians have been debating what that transformative period in the 18th and 19th centuries meant for the ordinary men, women and children whose backbreaking work made it possible.

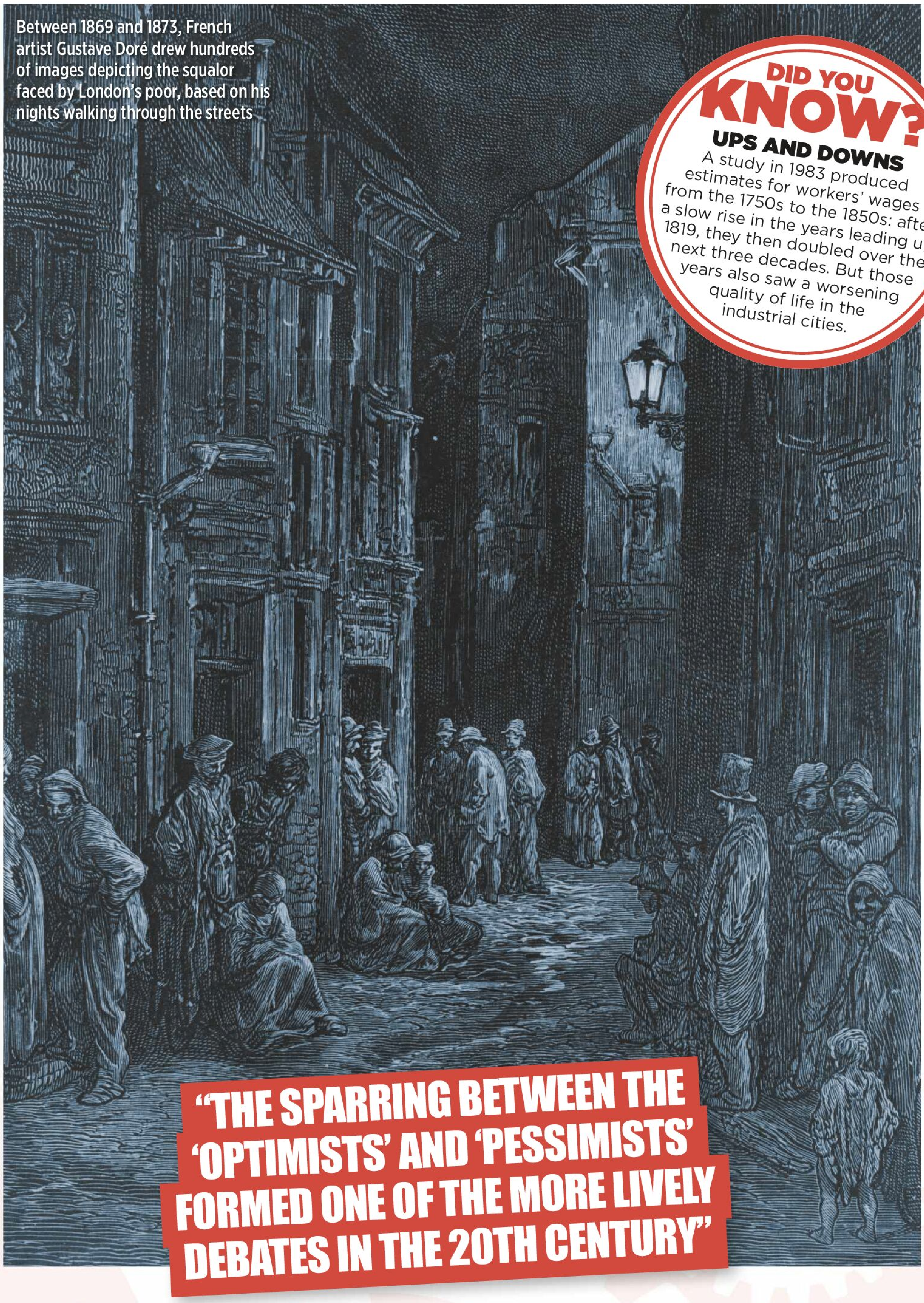
Indeed, the discussion over the social consequences of industrialisation on such an unprecedented scale – laying the groundwork for the modern world – began before the name even took root. Although 19th-century commentators did not use our modern vocabulary, they certainly well understood that they lived in the midst of profound economic change and social upheaval, and poets, novelists, philosophers and a host of others sought to make sense of the dramatic changes to people's lives and the country's landscapes that they were witnessing.

With the passage of time, the Industrial Revolution gradually slipped from lived experience to historical event, and so the task of dissecting its consequences fell into the hands of historians. The sparring between the so-called 'optimists' and 'pessimists' formed one of the more lively elements of historical debate throughout the 20th century. On the one hand, the optimists argued that industrialisation improved the lives of working people, pointing to the fact that wages tended to be higher in cities and in factories, which enabled workers and their families to enjoy a higher standard of living.

The pessimists drew attention to the manifold disadvantages experienced by working people during the Industrial Revolution, such as longer hours; more difficult, demanding and repetitive work; and the hardships of urban living. Some even disputed whether wages and living standards improved at all.

BEYOND GOOD AND BAD

Arguably, dividing the social impact of the Industrial Revolution into simply 'good' and 'bad' fostered an overly



Between 1869 and 1873, French artist Gustave Doré drew hundreds of images depicting the squalor faced by London's poor, based on his nights walking through the streets

DID YOU KNOW?

UPS AND DOWNS

A study in 1983 produced estimates for workers' wages from the 1750s to the 1850s: after a slow rise in the years leading up 1819, they then doubled over the next three decades. But those years also saw a worsening quality of life in the industrial cities.

> "THE SPARRING BETWEEN THE 'OPTIMISTS' AND 'PESSIMISTS' FORMED ONE OF THE MORE LIVELY DEBATES IN THE 20TH CENTURY"

GETTY IMAGES X2, ALAMY X2

ABOVE: **The work was backbreaking and the hours long, but adult men saw a rise in wages and could even have money to spend on leisure pursuits**

RIGHT: **A portrait of three poor Lancashire cotton mill workers shows them in dirty aprons and wooden clogs**

polarised debate. Rather than attempting to generalise about the impact that industrialisation had on ‘working people’, it is instead helpful to think about individual sections of society, as this period certainly impacted different parts of the population of Britain in very different ways.

We tend to have the strongest historical evidence for the experiences of adult males, so let us start the discussion there. Despite the claims of the pessimists, if there was one group that stood to gain it was adult men. The factories, mills and furnaces needed workers to operate them, and in order to attract and retain such workers, their owners needed to pay higher wages than men could earn working on the land.

Higher wages were the simplest and most obvious benefit, but these led to further opportunities for men.

▶

◀ As wages rose, workers started to enjoy some of the things that are taken for granted today, such as the possibility of progression in one's employment and expendable income, which they used on leisure time or other pursuits.

While the demand for labour generally benefited adult men, we know that the factories also put children to work – so what was the impact on them? Here, the evidence is more mixed. There was, of course, nothing new about employing children: poor families the world over have always put their children to work from a young age. But the reality was that prior to the Industrial Revolution, there was not much work for them to do.

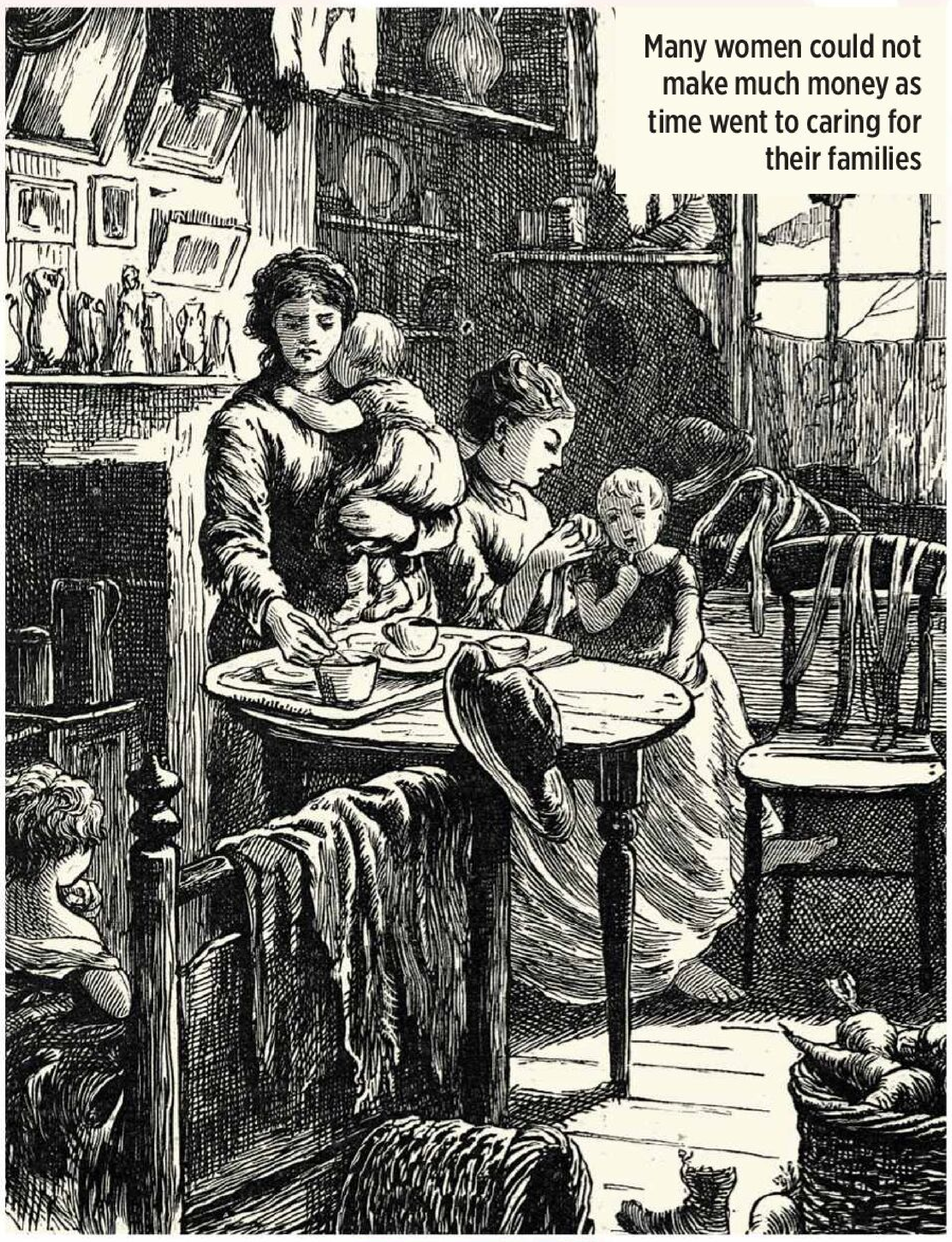
AN UNEVEN PICTURE

The rise of the factories changed the fate of children's work dramatically. Not only was there a large demand for child workers, the tasks needed in factories and mills were regimented and supervised, making it possible to extract a long working day from even the youngest of children. This marked a clear change with the past. While it is likely that child workers enjoyed better nutrition than they had previously, the physical and emotional demands of the labour they performed on their growing bodies should not be underestimated.

Finally, the experiences of women in the Industrial Revolution were different yet again. Although young, unmarried women often worked for pay outside the home, the reality was that many spent most of their lives carrying out unpaid domestic work for their families. As such, they did not share, at first hand, many of the advantages enjoyed by the men. Furthermore, industrialisation did nothing to help women control the size of their families.

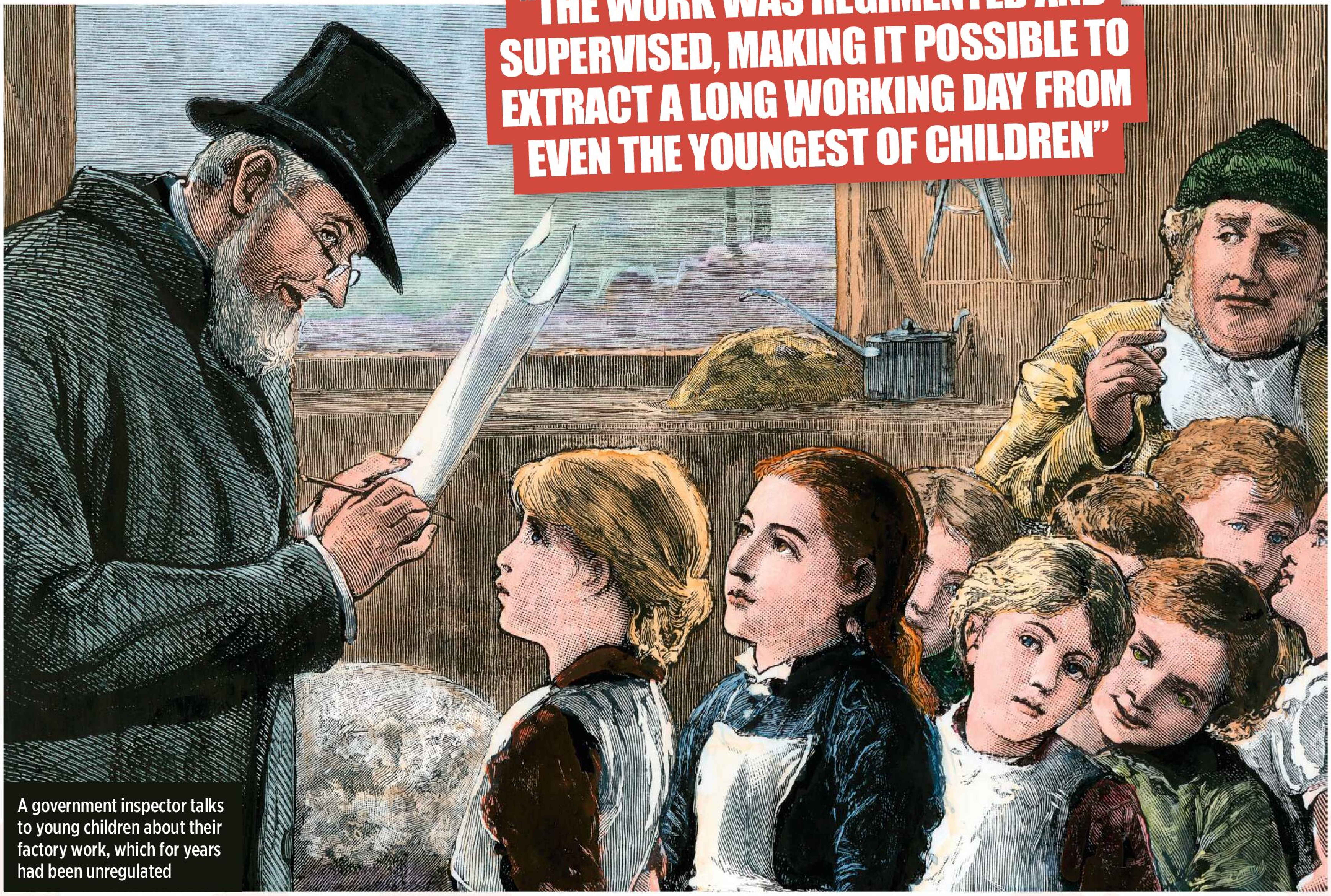
As has been hinted at, there is no one-size-fits-all answer to the ongoing debate of what happened to ordinary people with the onset of industrialisation. Above all, the Industrial Revolution created a far more complex society. ⊙

EMMA GRIFFIN is a professor of British history at Queen Mary University of London. She is the author of five books, including *Bread Winner: An Intimate History of the Victorian Economy* (Yale University Press, 2020)



Many women could not make much money as time went to caring for their families

"THE WORK WAS REGIMENTED AND SUPERVISED, MAKING IT POSSIBLE TO EXTRACT A LONG WORKING DAY FROM EVEN THE YOUNGEST OF CHILDREN"



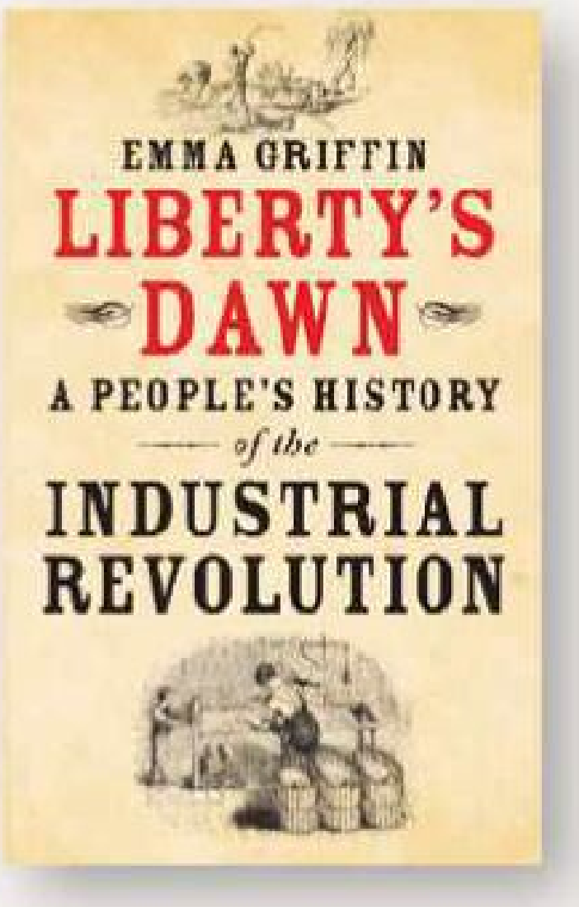
A government inspector talks to young children about their factory work, which for years had been unregulated

GETTY IMAGES X2, ALAMY X1

GET HOOKED

Explore the Industrial Revolution further with our pick of resources

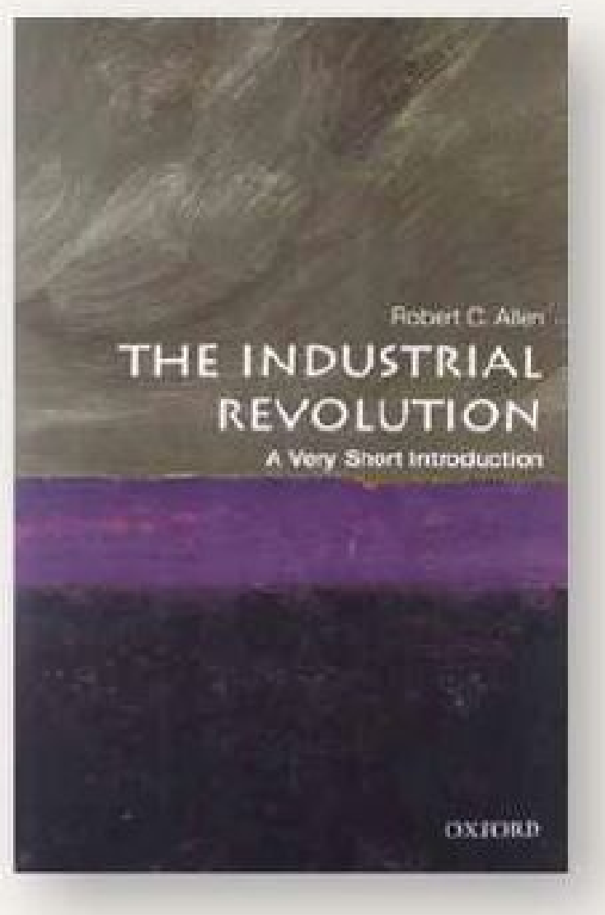
BOOKS



Liberty's Dawn: A People's History of the Industrial Revolution

By Prof Emma Griffin
(Yale University Press, 2014)

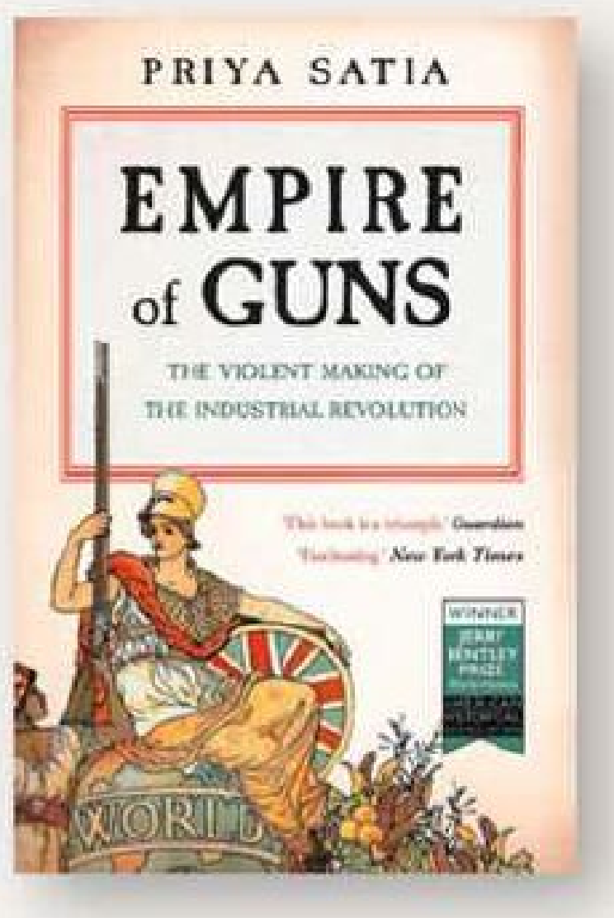
Using hundreds of accounts written between 1760 and 1900 by workers in the Industrial Revolution, Emma Griffin highlights how alongside the misery there was also progress.



The Industrial Revolution: A Very Short Introduction

By Robert C Allen
(Oxford University Press, 2017)

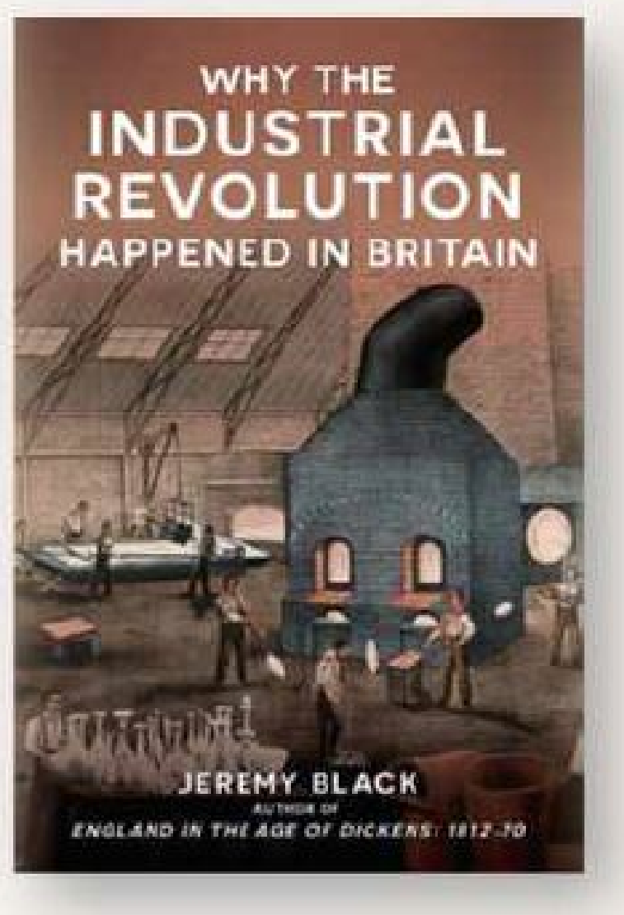
The monumental changes of the Industrial Revolution can sometimes feel overwhelming. This addition to the highly popular *Very Short Introduction* series is an accessible and informative starting point.



Empire of Guns: The Violent Making of the Industrial Revolution

By Priya Satia
(Penguin, 2018)

Award-winning author Priya Satia's fascinating and ambitious book frames the Industrial Revolution not only in terms of technological innovation, but in Britain's lucrative gun trade.

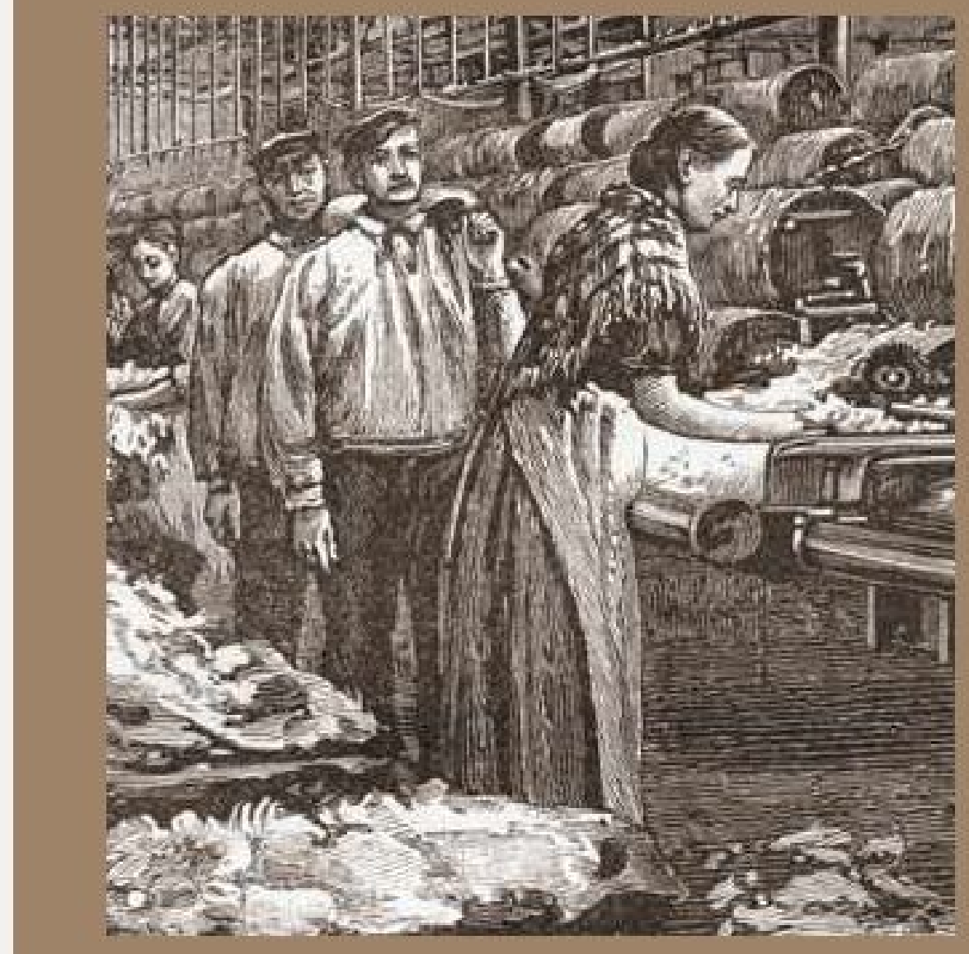


Why the Industrial Revolution Happened in Britain

By Prof Jeremy Black
(Amberley Publishing, 2023)

Jeremy Black explores how the combination of the 'push' factors of entrepreneurs and resources and the 'pull' factors of consumerism, fashion and an ability to purchase goods drove the Industrial Revolution.

ON THE

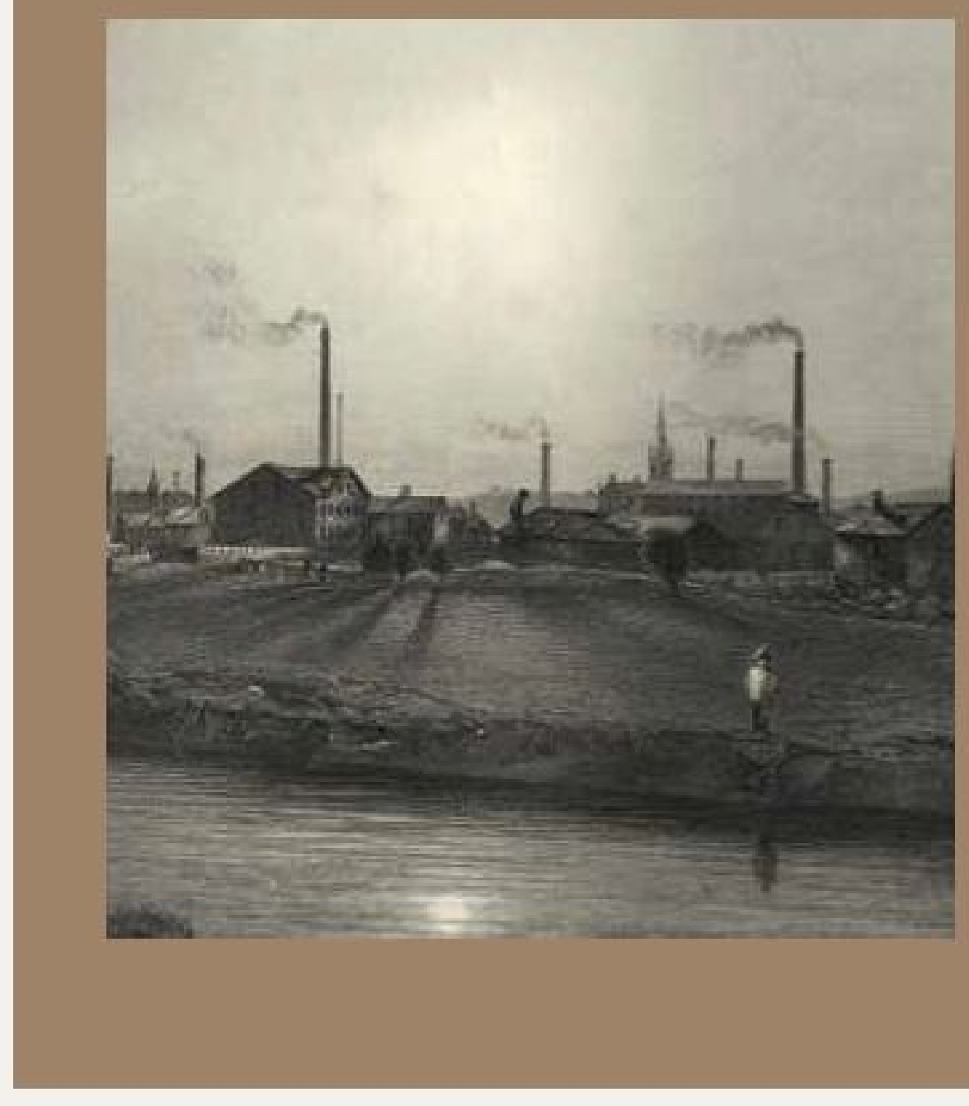


BBC RADIO 4

◀ Northern Inventions
bbc.co.uk/programmes/b07sy32x
In his series, *The Matter of the North,* Melvyn Bragg celebrates the north's industrial inventiveness

BBC SOUNDS

◀ Short History Of... The Industrial Revolution
bbc.co.uk/sounds/play/p0hbn1ns
Explore some of the big questions of the Industrial Revolution, from why it took place in Britain, to how it shaped the modern world



BBC SOUNDS

◀ New Thinking: It all begins here? Understanding the Industrial Revolution
bbc.co.uk/sounds/play/p081y7h4
John Gallagher discusses recent lines of thinking on the Industrial Revolution with historians Emma Griffin and William Ashworth

ONLINE AND AUDIO

▶ For podcasts, features, quizzes, interviews and more on the Industrial Revolution, visit our website: ***historyextra.com/period/industrial-revolution***

▶ The Industrial Revolution: everything you wanted to know
Prof Emma Griffin tackles internet search queries and questions submitted by listeners about Britain's Industrial Revolution. Listen at *tinyurl.com/4x7dnzzt*

▶ How war sparked the Industrial Revolution
Britain's military machine was the main driver behind the nation's economic miracle in the 18th century, says Priya Satia. Read at *tinyurl.com/y9bnftk5*

▶ Your guide to the Luddite movement
Who were the Luddites, what did they want, and where does the term Luddite come from? Read at *tinyurl.com/37azsfn4*

WATCH

The Mill

(streaming on Amazon Prime)

Channel 4's hit period drama, set in the Industrial Revolution of the 1830s and 1840s and based on real-life stories taken from the archives of the textile workers at Quarry Bank Mill, Cheshire.

Oliver Twist (2007)

(available on various platforms)

A powerful version of the Charles Dickens novel, starring Timothy Spall, Tom Hardy and a young William Miller in the titular role – a boy from the workhouse trying to survive in Victorian London.

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PODCAST

Professor Andrew Lambert answers questions about the Crimean War on the HistoryExtra podcast: *historyextra.com/ podcast: crimean-war-qa*

GETTY IMAGES X4, ALAMY X3

YOUR ESSENTIAL GUIDE TO THE

CRIMEAN WAR

100 **The disconcert of Europe**
Discover the most important moments in the story of the Crimean War with our handy timeline

102 **Everything you wanted to know about the Crimean War**
Professor Andrew Lambert answers key questions about the 19th-century conflict – and dispels several myths along the way

106 **The great unravelling**
Learn how religious tensions and Russian ambitions shattered the system that had long prevented war between Europe's big powers

108 **Key battles of the Crimean War**
From the first clash along the Danube to the fierce fight to take Sevastopol, we examine the conflict's most pivotal encounters

112 **Florence and the military machine**
Find out how nursing changed forever thanks to an implacable Englishwoman named Florence Nightingale

115 **The changing faces of warfare**
From photography to railways, we reveal why the conflict is known as the first truly 'modern' war

118 **Peace and picking up the pieces**
What happened when it was all over? Professor Andrew Lambert examines the war's lasting impact on Europe

120 **Opinion**
Professor Andrew Lambert shares his views on the war's parallels with the ongoing conflict in Ukraine

121 **Get hooked**
From books to podcasts, we reveal our pick of the best Crimean War resources to check out next

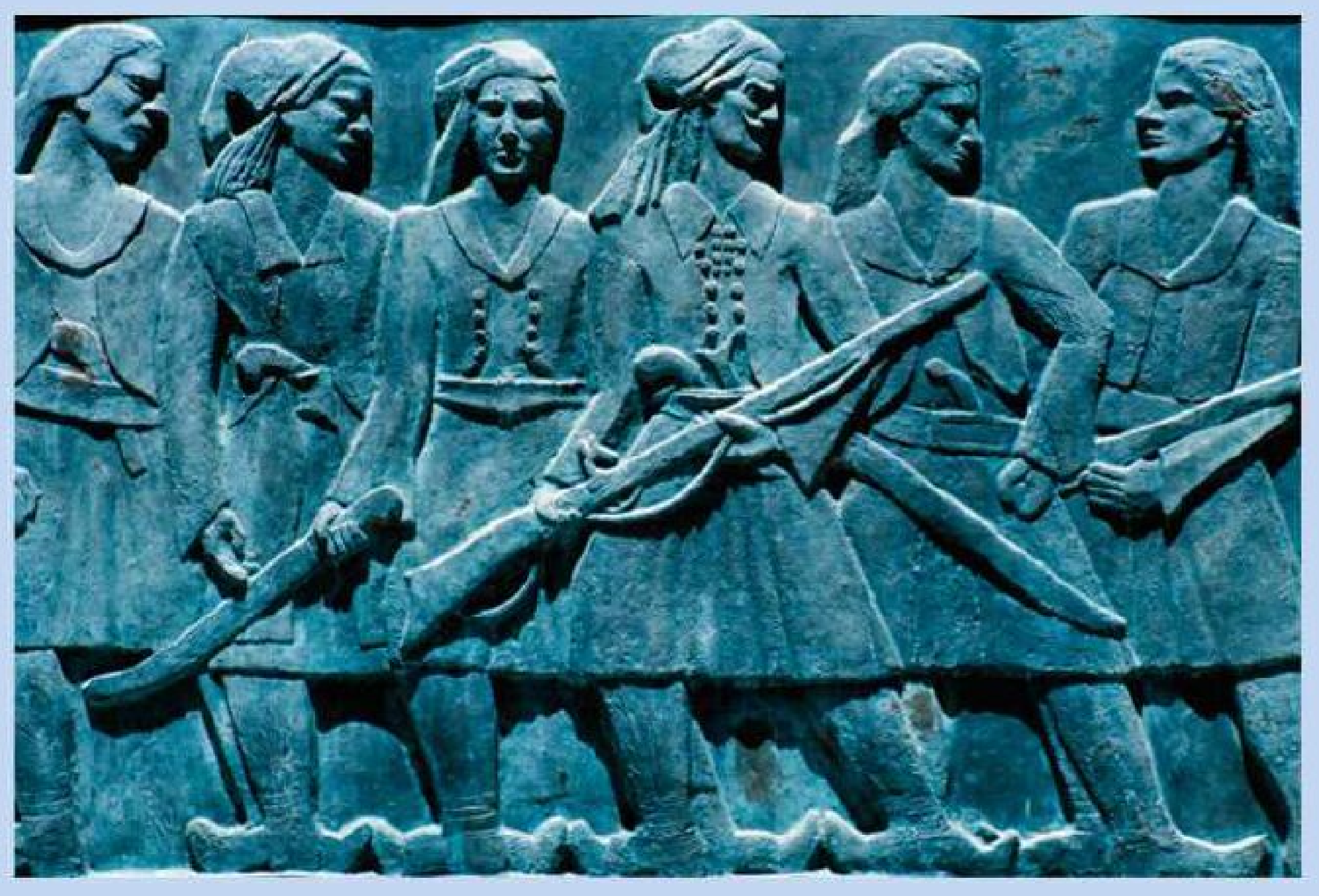
HISTORICAL CONSULTANT FOR THIS ESSENTIAL GUIDE

ANDREW LAMBERT is Laughton professor of naval history in the Department of War Studies at King's College London. His books include *The Crimean War: British Grand Strategy against Russia, 1853–56* (Routledge, 2020).

THE DISCONCERT OF EUROPE

1821–29

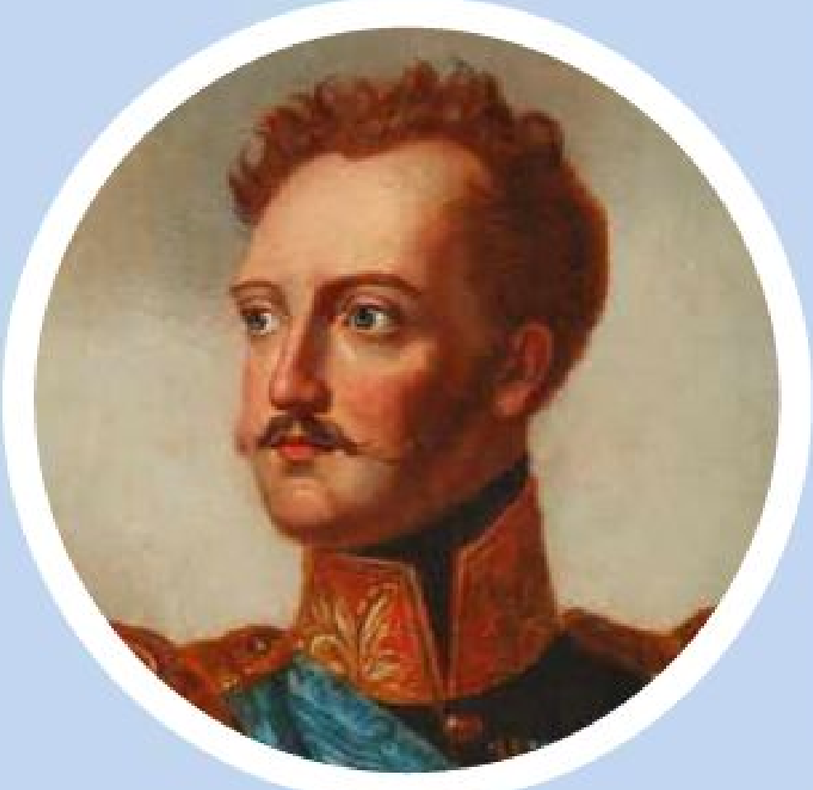
▼ The Ottoman empire's rule over Greece comes to an end following the Greek War of Independence, serving to highlight the once-mighty empire's decline.



1829

The Russo-Turkish War of 1828–29 ends in Russian protection of the Ottoman-held Danubian Principalities (Moldavia and Wallachia) in the Balkans. The Treaty of Edirne also grants Russia access to shipping through the Dardanelles and Bosphorus straits.

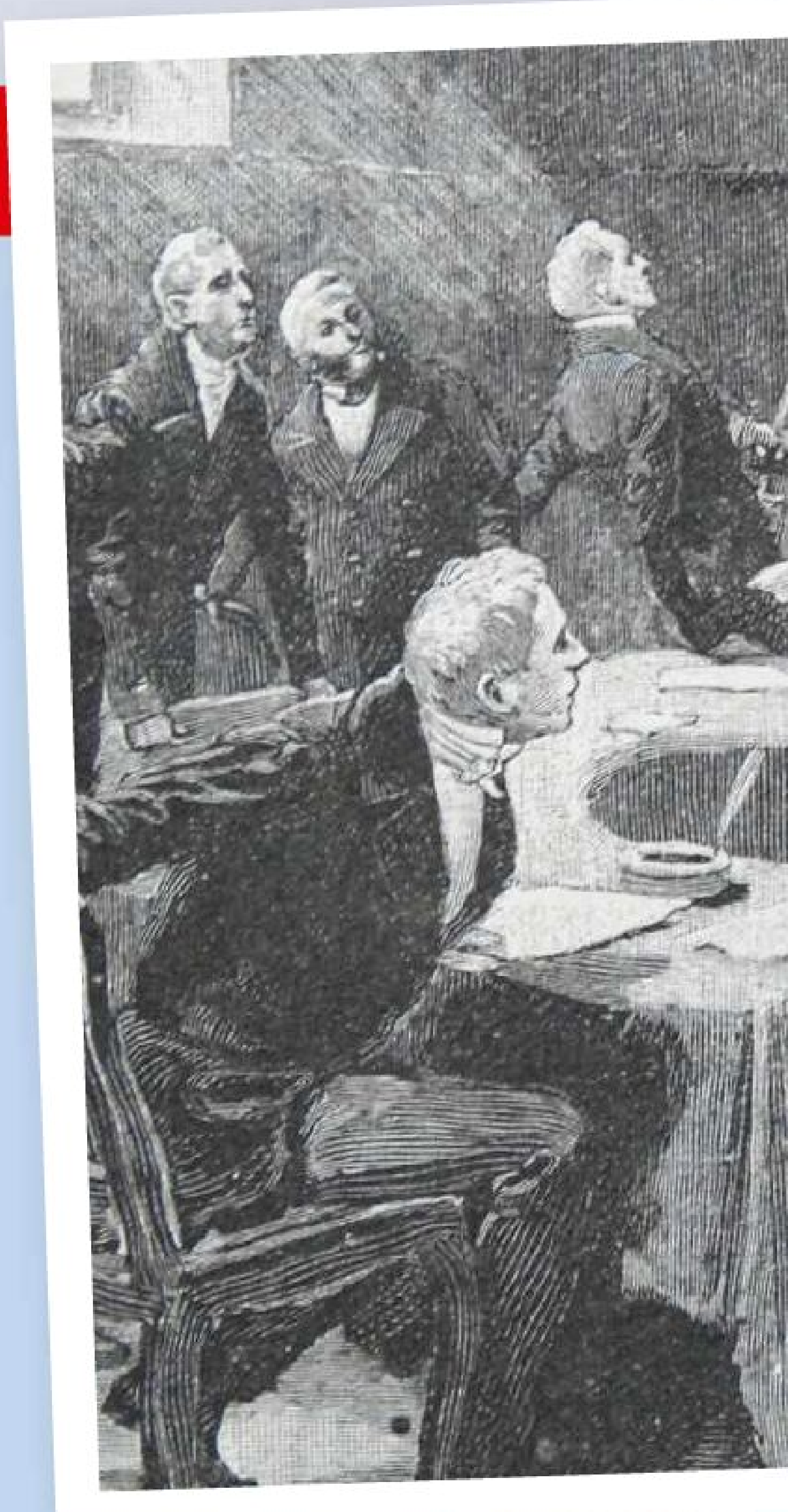
SEP 1833



▲ Russia's Tsar Nicholas I (*above*) labels the Ottoman empire the "sick man of Europe" while meeting with Prince Metternich of Austria.

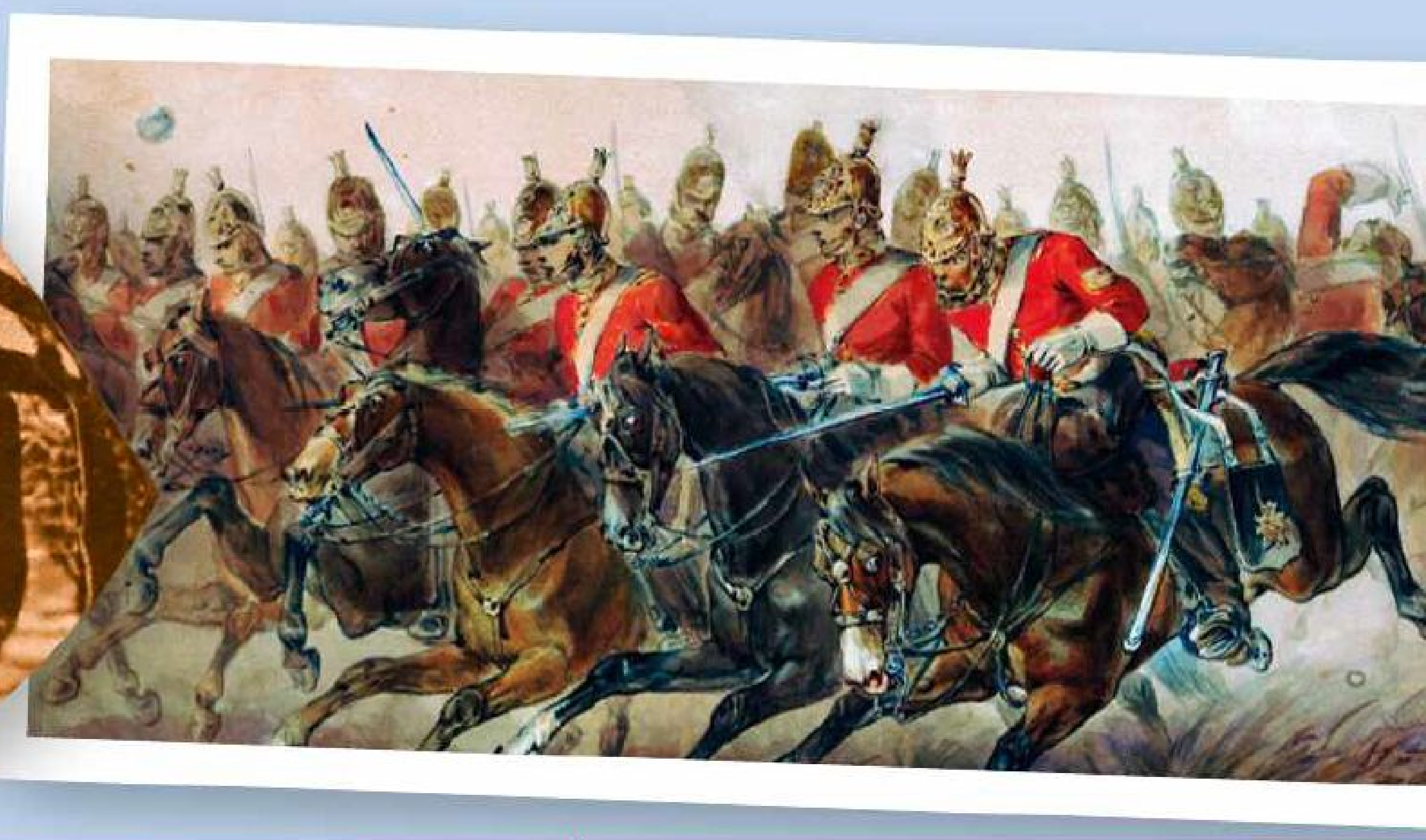
1852

▶ French president Louis-Napoleon Bonaparte (later Napoleon III) lobbies the Ottoman empire to recognise France as the protector of Christian monks and pilgrims in Jerusalem. In response, Nicholas I insists that Russia be named protector of the city's Holy Places and of all Orthodox Christians across the Ottoman empire.



25 OCT 1854

▼ The battle of Balaclava ends with the disastrous Charge of the Light Brigade, during which 110 British men are killed and about 130 wounded.



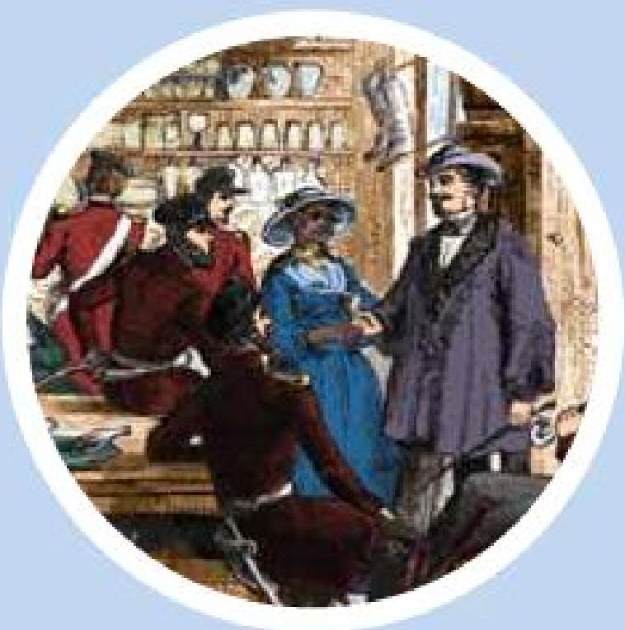
4 NOV 1854

▶ Florence Nightingale and 38 fellow nurses from Britain arrive at the Barrack Hospital in Scutari (a district of Constantinople) and later begin caring for injured troops brought in from the battles of Balaclava and Inkerman, amid squalid conditions.

26 JAN 1855

The Kingdom of Sardinia-Piedmont, keen to gain Britain and France's support for the cause of Italian unification, joins the war on the allied side and sends an expeditionary force of 15,000 troops to the Crimea.

MAR 1855



▲ Nurse Mary Seacole arrives in Constantinople and proceeds to the Crimea, where she founds the British Hotel for convalescing soldiers.

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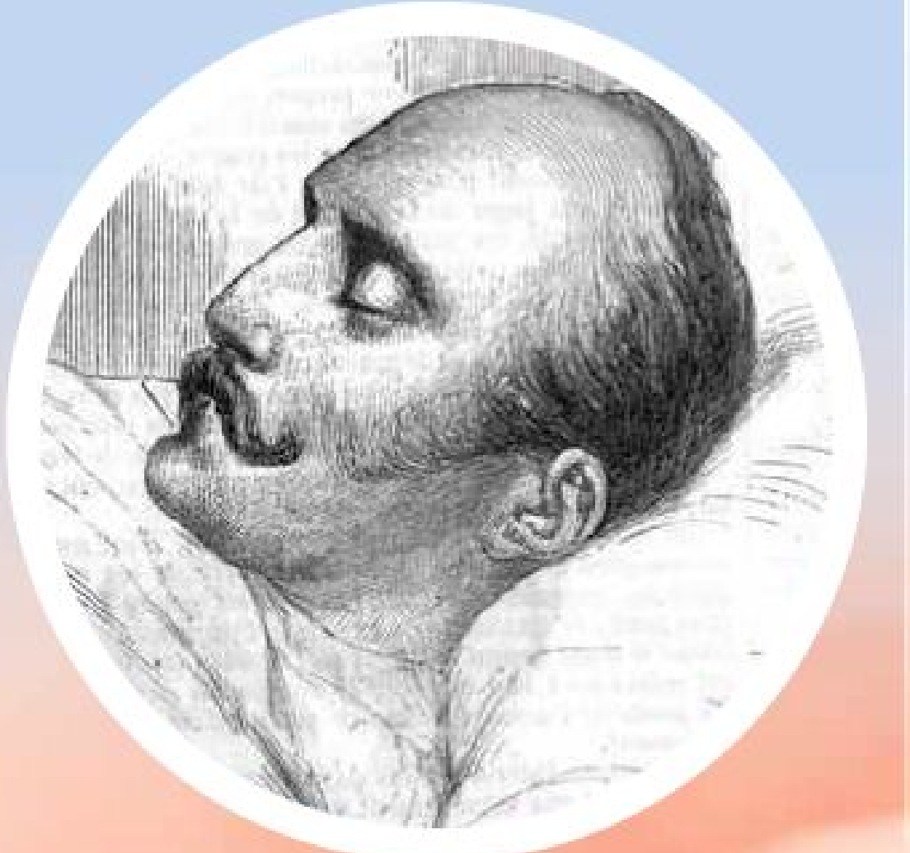
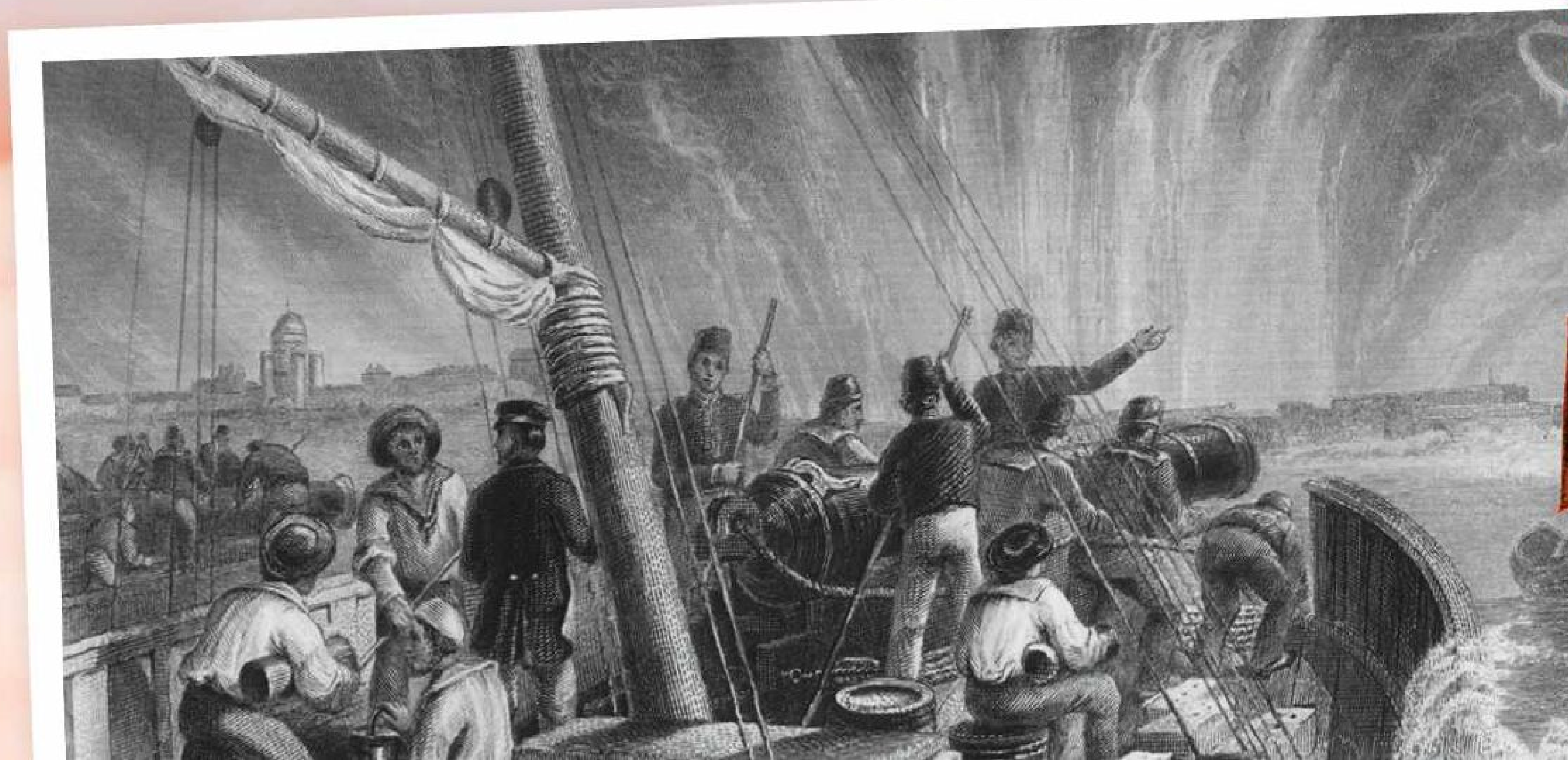
2 MAR 1855



▲ Nicholas I dies in St Petersburg and is succeeded by his son, Alexander II, as Russian tsar.

9 AUG 1855

▼ Sveaborg, a major Russian fortress off Helsinki, is destroyed (*below*) by an Anglo-French fleet, leaving the naval base of Kronstadt – and thus St Petersburg – vulnerable to allied attacks.



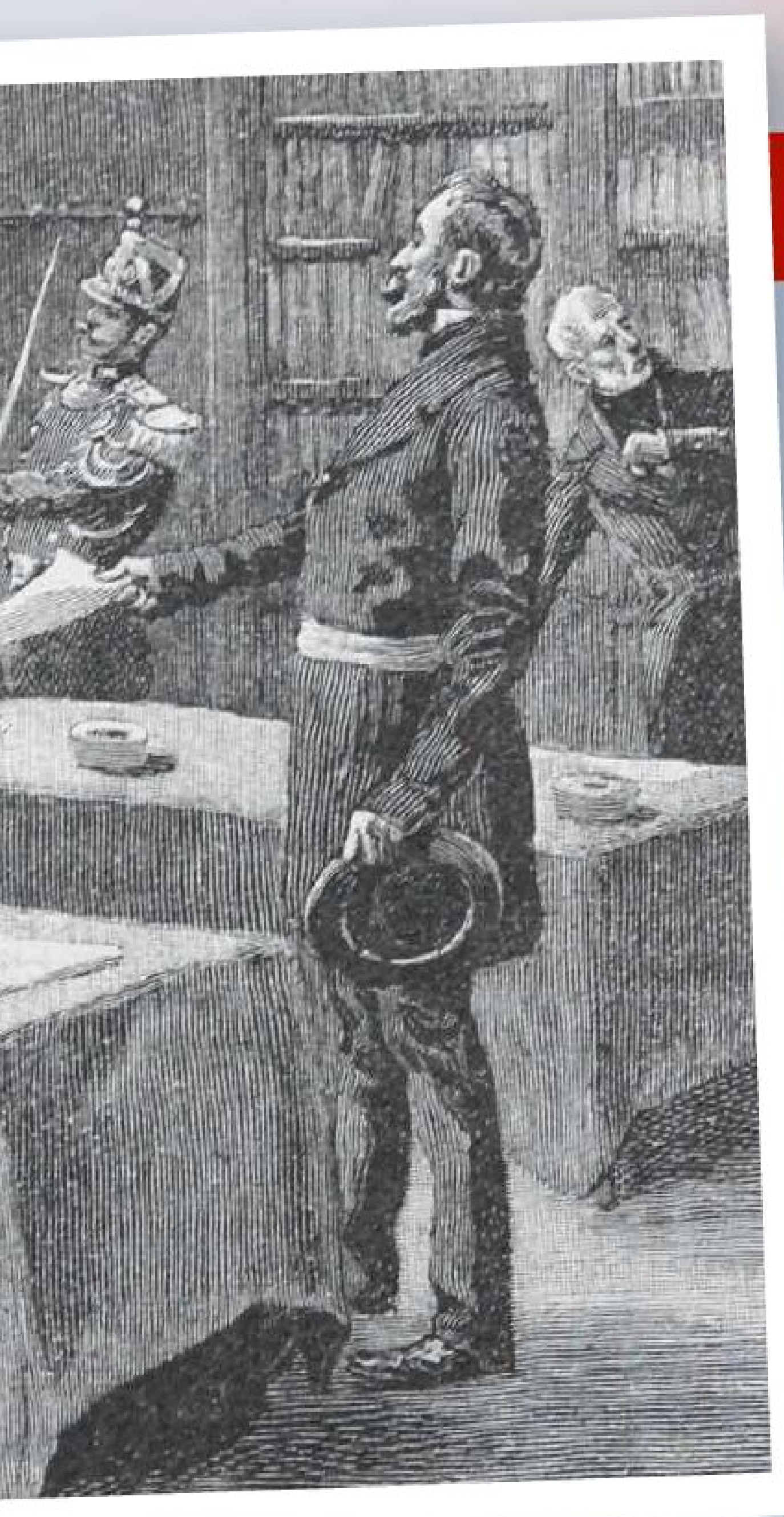
8–11 SEP 1855

The French capture the Malakoff fortification near Sevastopol and the Russians abandon the city. The siege ends on 11 September.

29 JAN 1856

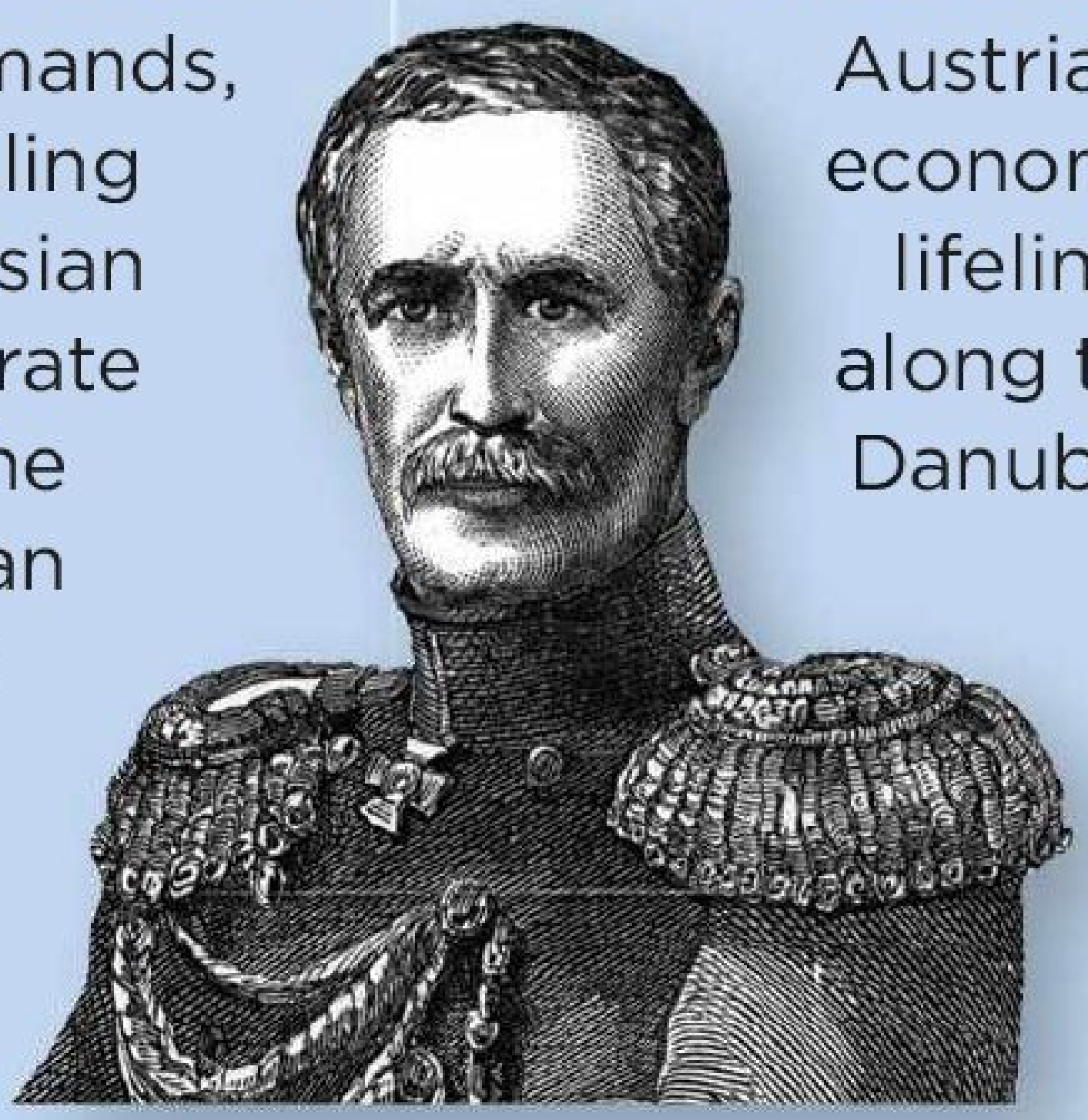
▼ The Victoria Cross is instituted as the highest award in the British honours system. The medals, the first of which are awarded to 111 veterans of the Crimean War, are alleged to have been cast from Russian cannons captured at Sevastopol.

We chart some of the most important moments in the story of the Crimean War: from the Ottoman empire's humiliation in Greece to the Charge of the Light Brigade and beyond



FEB 1853

▼ On a mission to Constantinople, Russia's Prince Menshikov (*right*) echoes Nicholas I's earlier demands, again calling for a Russian protectorate over the Ottoman empire's 12 million Orthodox Christians.



JUL 1853

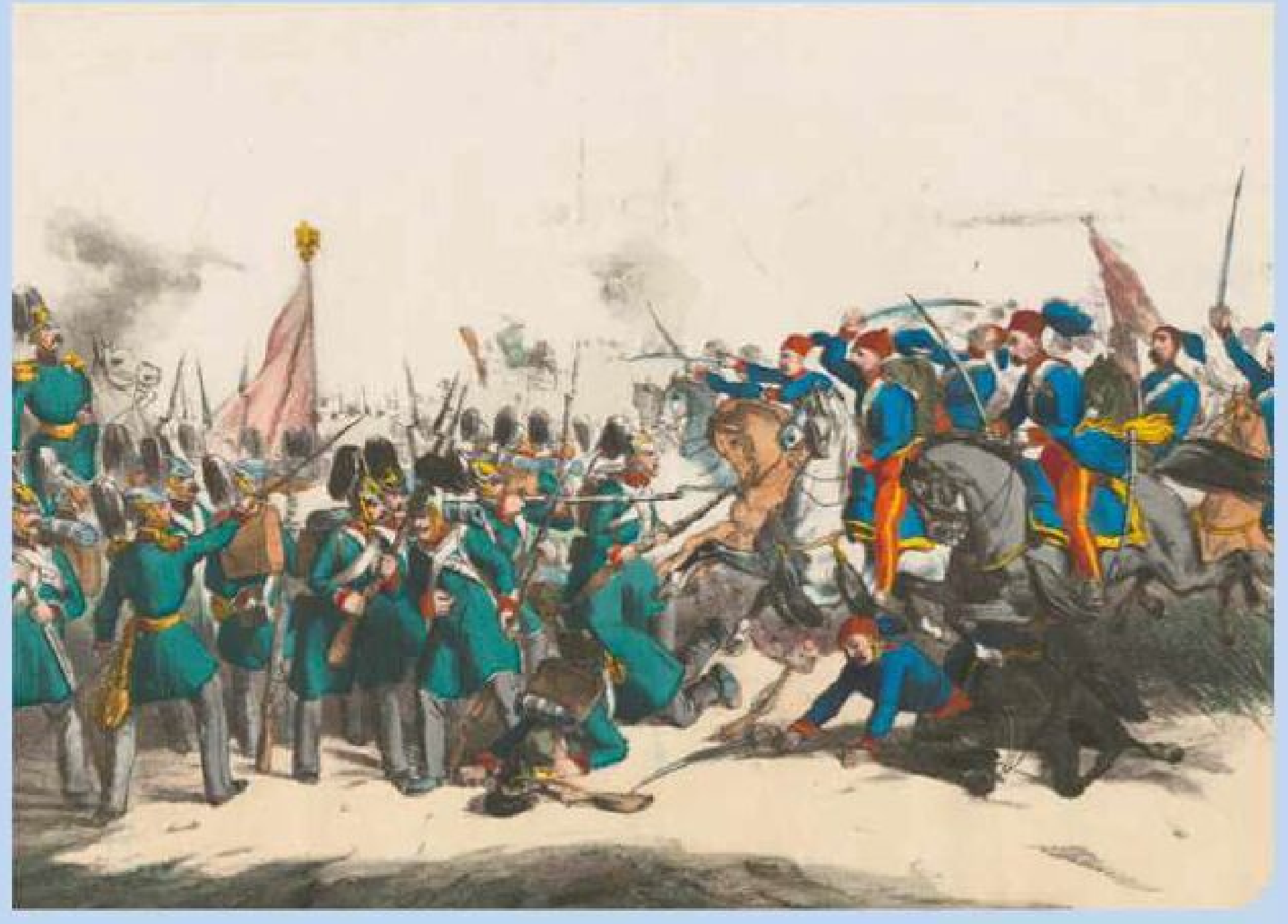
Russia occupies the Ottoman-held Danubian Principalities, threatening Austria's economic lifeline along the Danube.

23 SEP 1853

Eager to maintain its lucrative trade agreements with the Ottoman empire and fearful of Russia's territorial ambitions in the Balkans, Britain deploys the Royal Navy to Constantinople (now Istanbul), having already linked up with a French fleet in the Dardanelles Strait.

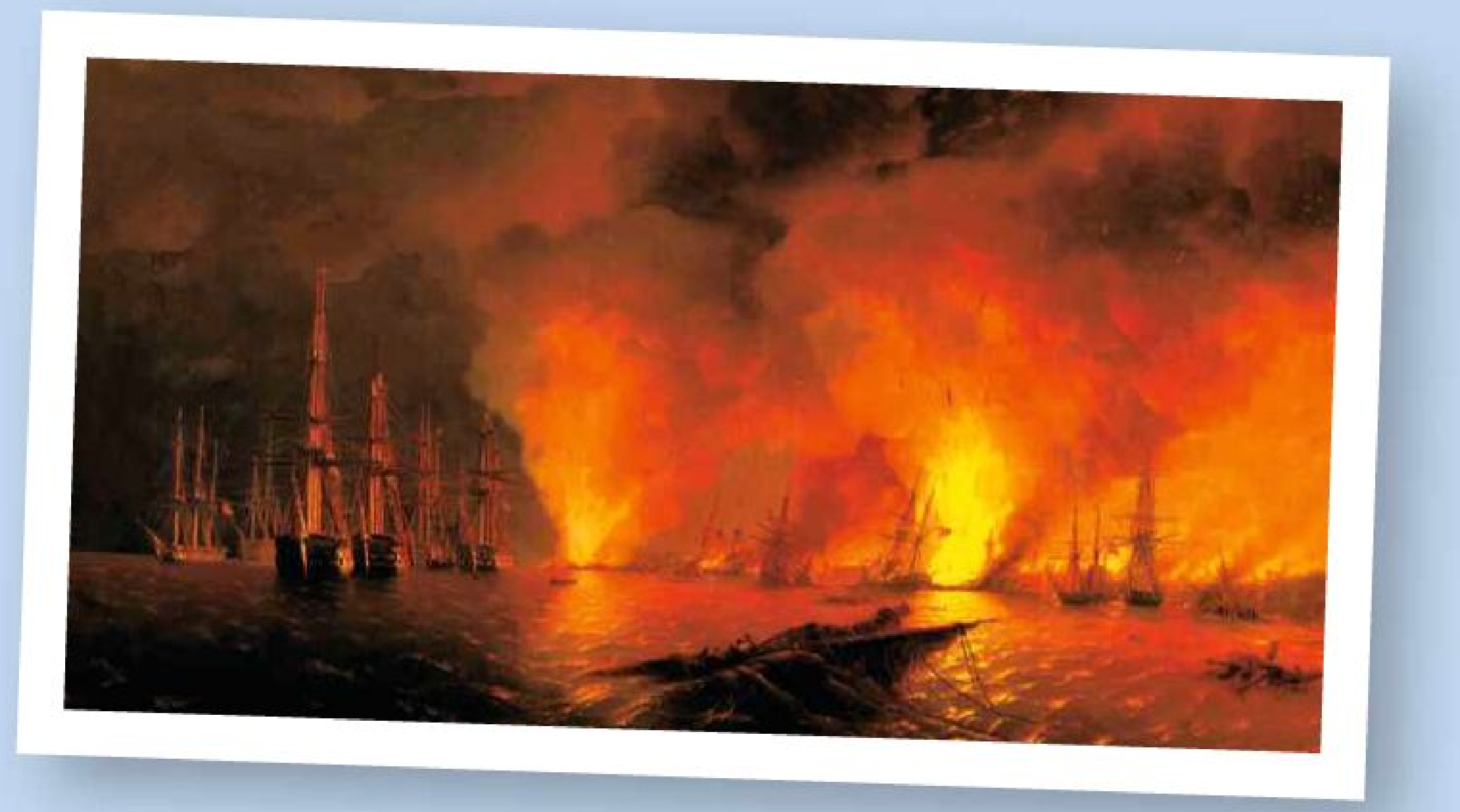
4 OCT 1853

▼ The Ottoman empire declares war on Russia, leading to the conflict's first battle at Oltenița (*below*), Wallachia, exactly one month later.



30 NOV 1853

▼ The Russian Black Sea fleet obliterates Ottoman warships anchored in the harbour at Sinop, northern Anatolia (*below*), killing nearly 3,000 Turks.



28 MAR 1854

Britain and France declare war on Russia after their ultimatum demanding that Russia withdraws its forces from the Danubian Principalities expires. The British and French, along with the Ottomans, will later become collectively known as the allies.

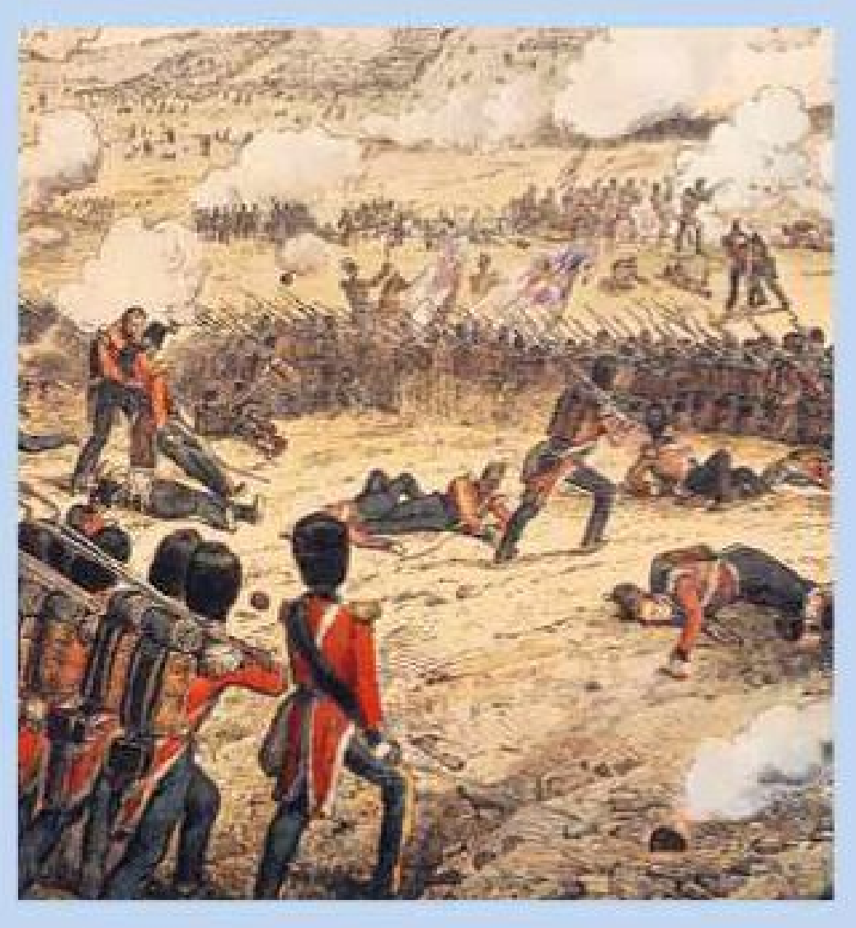
AUG 1854

Anglo-French supremacy over the Baltic Sea is secured following the destruction of the Bomarsund fortress in Åland. Austria occupies the Danubian Principalities after Russia's withdrawal, as Nicholas I seeks to avoid Vienna formally joining the conflict.

14 SEP 1854

Allied forces begin landing along the beaches of Kalamita Bay on the Crimean Peninsula's western shore. Preparations are soon underway to besiege the main Russian port of Sevastopol, some 30 miles south of the allied camp.

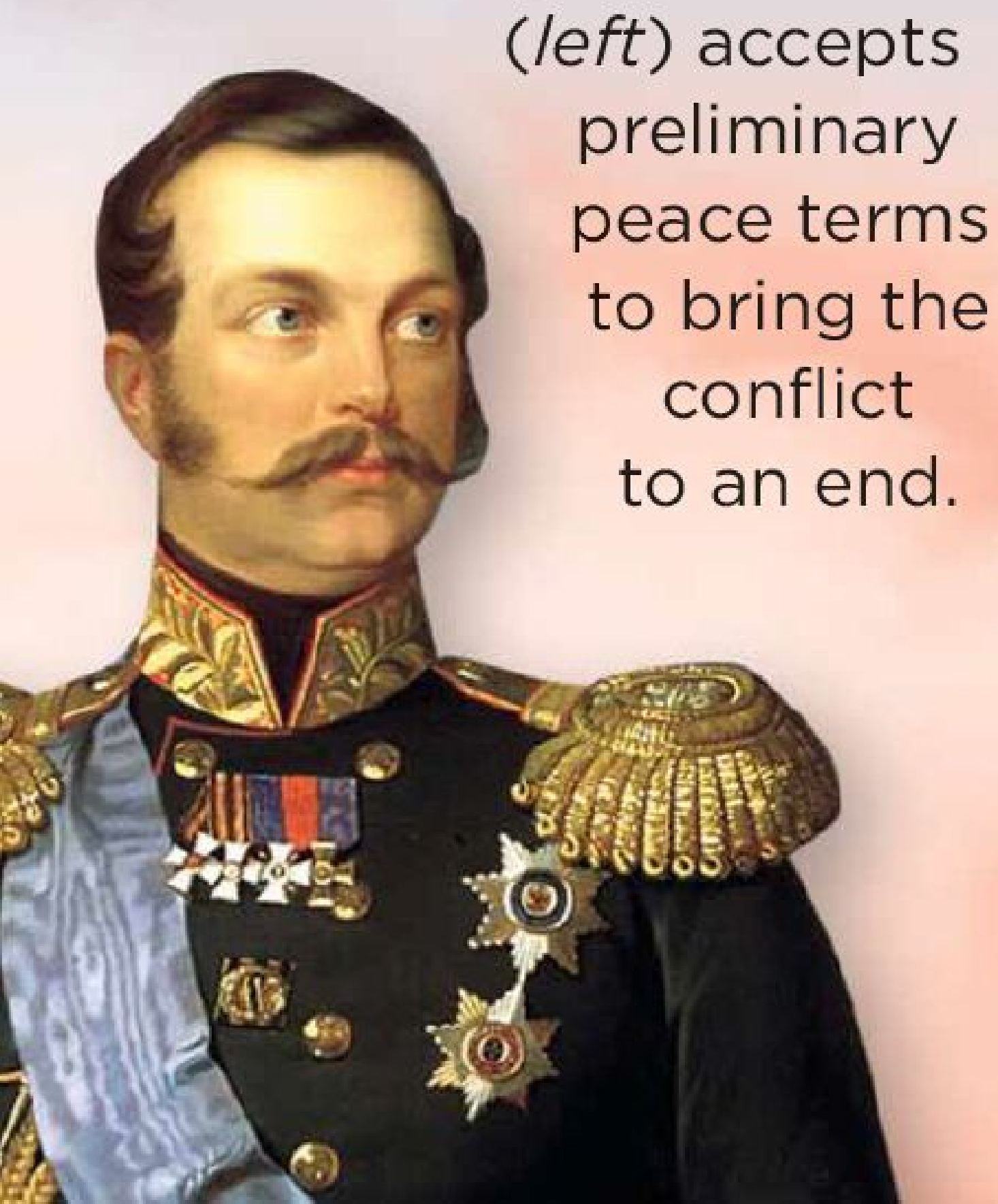
20 SEP 1854



▲ Russia loses the battle of the Alma, leading to the start of the allied siege of Sevastopol on 17 October.

1 FEB 1856

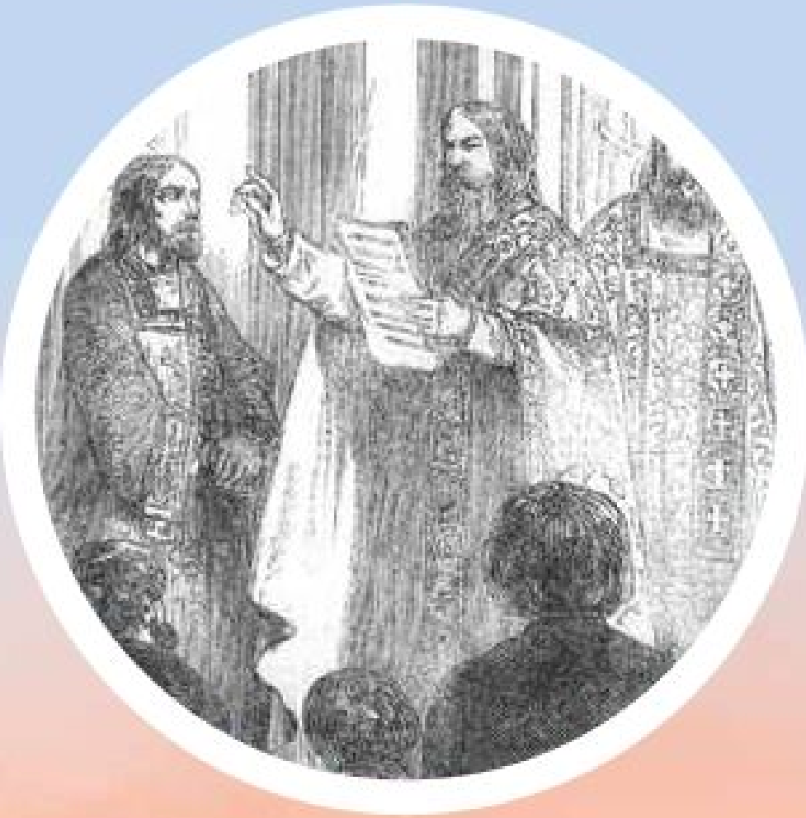
▼ Faced with the prospect of Austria joining the war on the side of the allies, Alexander II (*left*) accepts preliminary peace terms to bring the conflict to an end.



30 MAR 1856

The Treaty of Paris concludes hostilities after a five-day peace conference. Russia cedes Southern Bessarabia (at the mouth of the Danube), the Black Sea is demilitarised, and the Danube is opened to international shipping.

3 MAR 1861

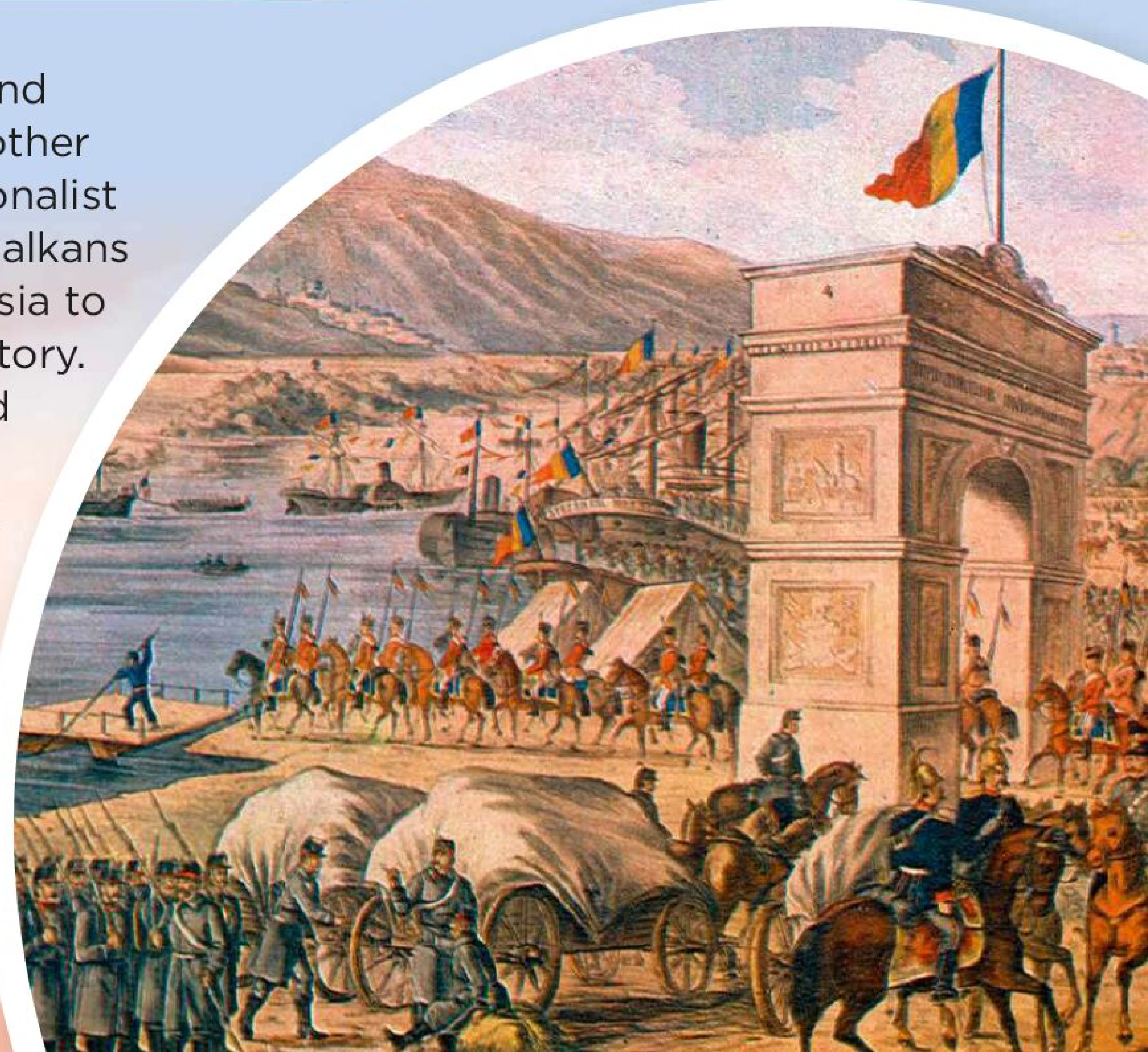


▲ Serfdom is abolished across the Russian empire, the Crimean War having exposed a dire need for social reforms.

APR 1877–MAR 1878

▶ The Russians and Ottomans fight another war amid rising nationalist tensions across the Balkans and attempts by Russia to recover their lost territory. Romania (*right*) and several other states become independent nations following the Ottoman empire's defeat in 1878.

WORDS: DANNY BIRD



EVERYTHING YOU WANTED TO KNOW ABOUT THE CRIMEAN WAR

Professor Andrew Lambert answers key questions about the 19th-century conflict and its impact on Russia and Britain today

Q: What was the Crimean War, in a nutshell?

A: For Britain and France, the Crimean War lasted between 1854 and 1856, although the Russians and Turkish were officially at war from October 1853. It was a conflict that concluded a 40-year period of heightened tensions between Britain and Russia – essentially a 19th-century Cold War.

The war was about global influence, economic power, strategic position and, ultimately, it was about the future of the declining Ottoman empire and whether the Russians could punch through out of the Black Sea into the Mediterranean and become a western European power. The British backed Ottoman Turkey because it wasn't a threat, and it was a very good economic partner.

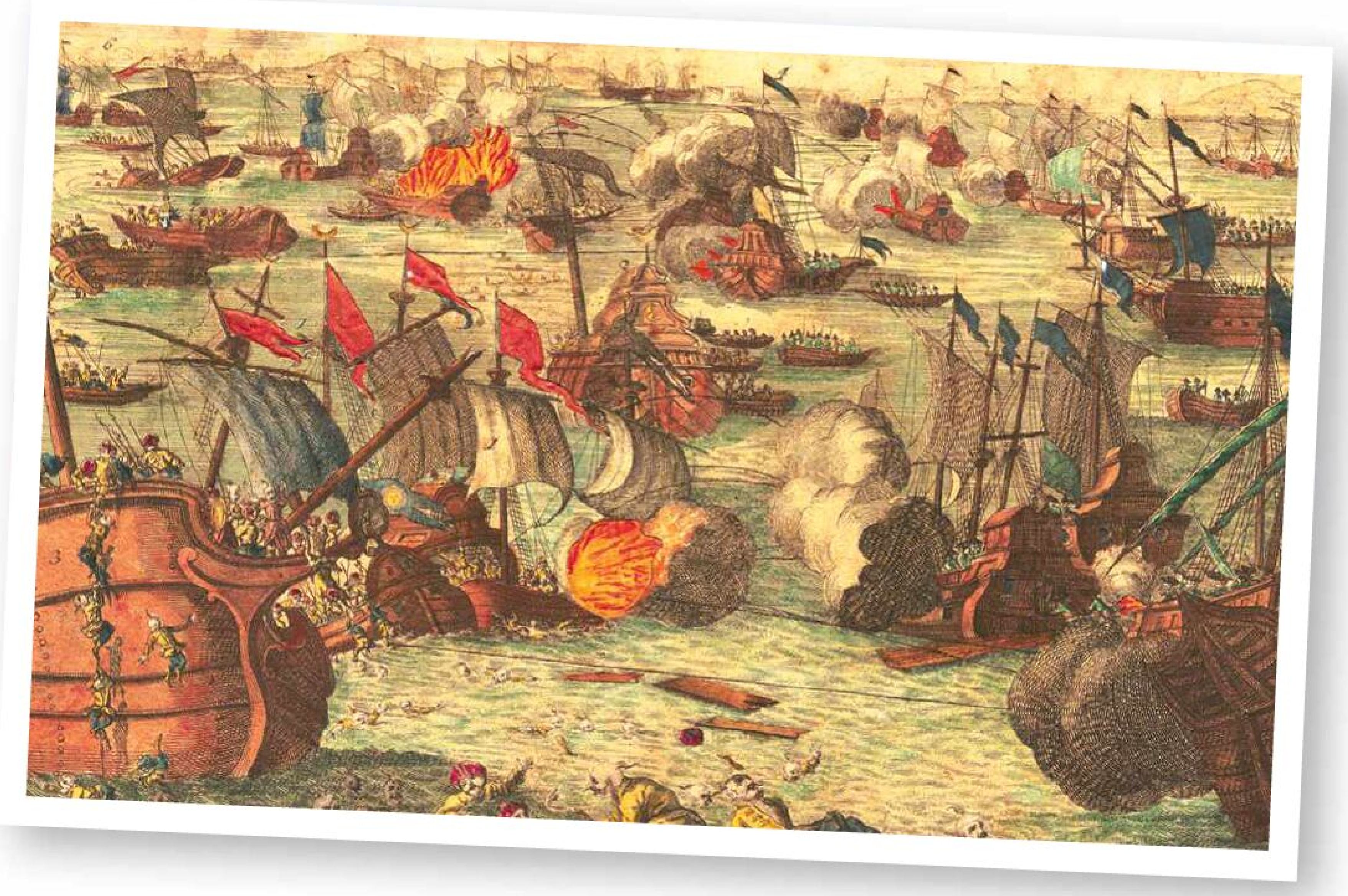
As the name suggests, the war was fought famously in the Crimea, but the primary theatre of the conflict was in the Baltic, and the main instrument of victory was economic warfare.

Q: What caused the war?

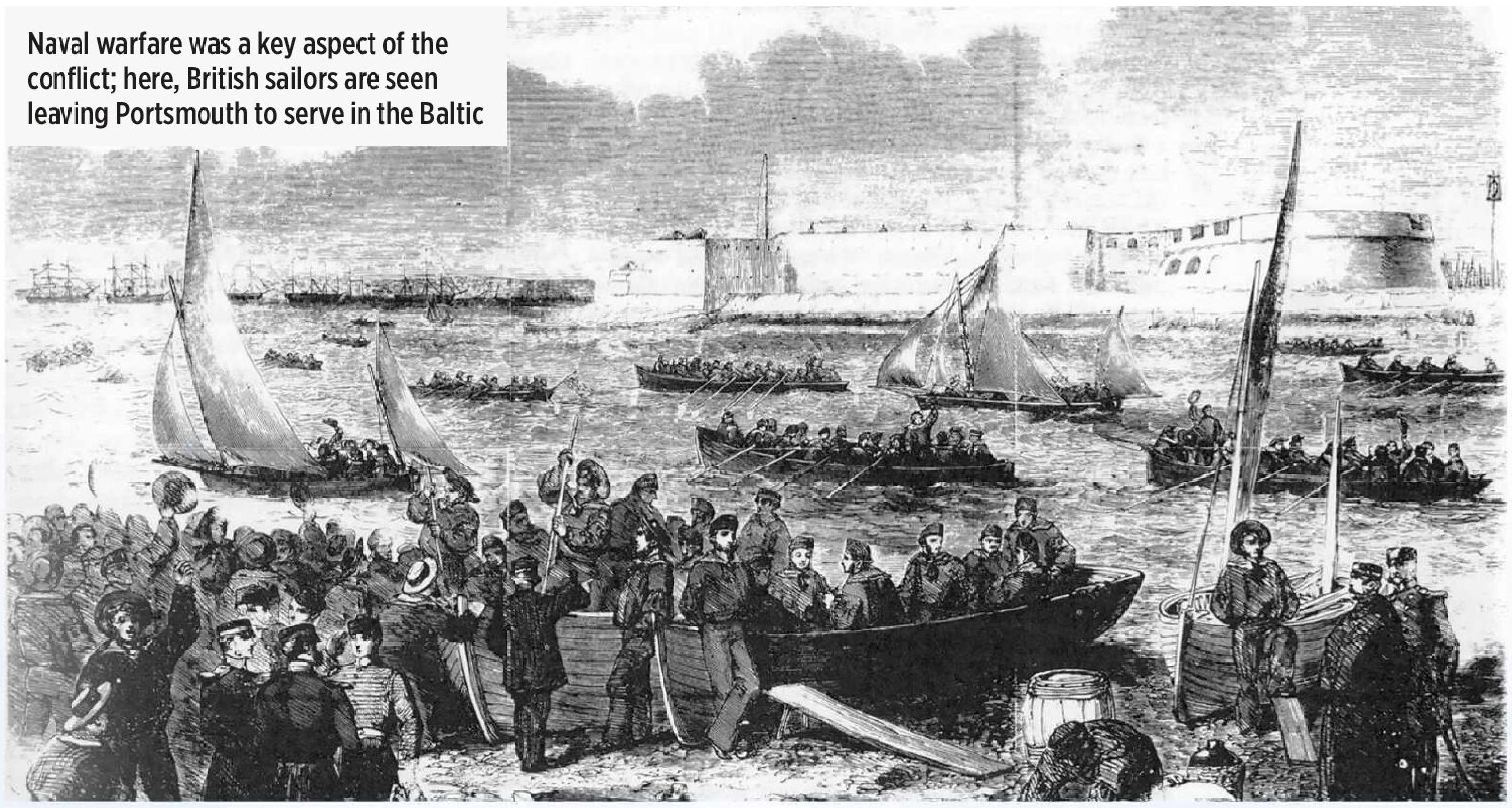
A: The origins of the Crimean War go back to the 18th century, starting with the Russian invasion of the Crimea in the 1780s and the capture of the harbour at Sevastopol. This then became the base of a new Russian Black Sea fleet, which posed a serious strategic threat to the Ottoman empire, whose capital, Constantinople (now Istanbul), was located on the Bosphorus – a narrow waterway that connects the Black Sea to the Sea of Marmara. This gave the Russians a major strategic advantage – if they could strike at the heart of the Ottoman empire, they would be able to march forward rapidly.

After Napoleon's defeat in 1815, Britain and Russia were the two dynamic powers in the global system. They embraced radically opposing political concepts, much as they do today: Britain was a global sea power, Russia was a continental military empire.

And so – through this clash of cultures and strategic ambition – we get this war, which everybody thinks was all about the Crimea, but it was not. It was actually a much bigger, long-running conflict between these two great powers in which Turkey was one of the potential flashpoints. The other potential flashpoints included Iran, Afghanistan, Finland, northern Norway, Alaska and China.



Russia had already fought several conflicts against the Ottoman empire, including the Russo-Turkish War of 1787–92, which saw a naval battle at the port of Ochakov (now in modern Ukraine)



Naval warfare was a key aspect of the conflict; here, British sailors are seen leaving Portsmouth to serve in the Baltic

GETTY IMAGES X3, ALAMY X2

Q: How important was naval warfare to the conflict?

A: It was crucial. When we talk about the Crimean War, most people have visions of deluded cavalry charges, thin red lines of infantry and Florence Nightingale; the naval dimension is often overlooked in favour of these stories.

It was the Royal Navy that transported Britain's army and landed soldiers in the Crimea. Most of the heavy artillery used during the siege of Sevastopol was naval, many of the gunners were naval, and it was the Royal Marines of the Fleet who backed up the Highlanders at the battle of Balaclava. From medical evacuation to transporting supplies, the whole thing was run by the Navy. Significantly, the main theatre of the war in the Baltic was naval, too, even if there was little violence there because the Russians wouldn't come out to fight.

Ultimately, this was a maritime strategic effort, and in all four theatres – the Baltic, the Black Sea, the White Sea and the Pacific – the primary target was the Russian navy and its bases.

Q: What was Florence Nightingale's role in the war?

A: Well, it's true that Florence Nightingale ended up inventing the modern nursing profession, but that's not what she was doing in the Crimea. In the Crimean War she was a hospital manager, and a very good one at that. But much of the actual hospital work was done by male orderlies, as had always been the case – bandsmen, buglers and men in non-combatant roles who were still part of the regiment strength. Women of Nightingale's class would not have dreamt of putting their hands on the dirty, damaged bodies of working-class men. So, any female nursing that was done was not carried out by her or her immediate circle. Instead, it was done by women of lower status, many of them coming through holy orders, such as Catholic nuns.

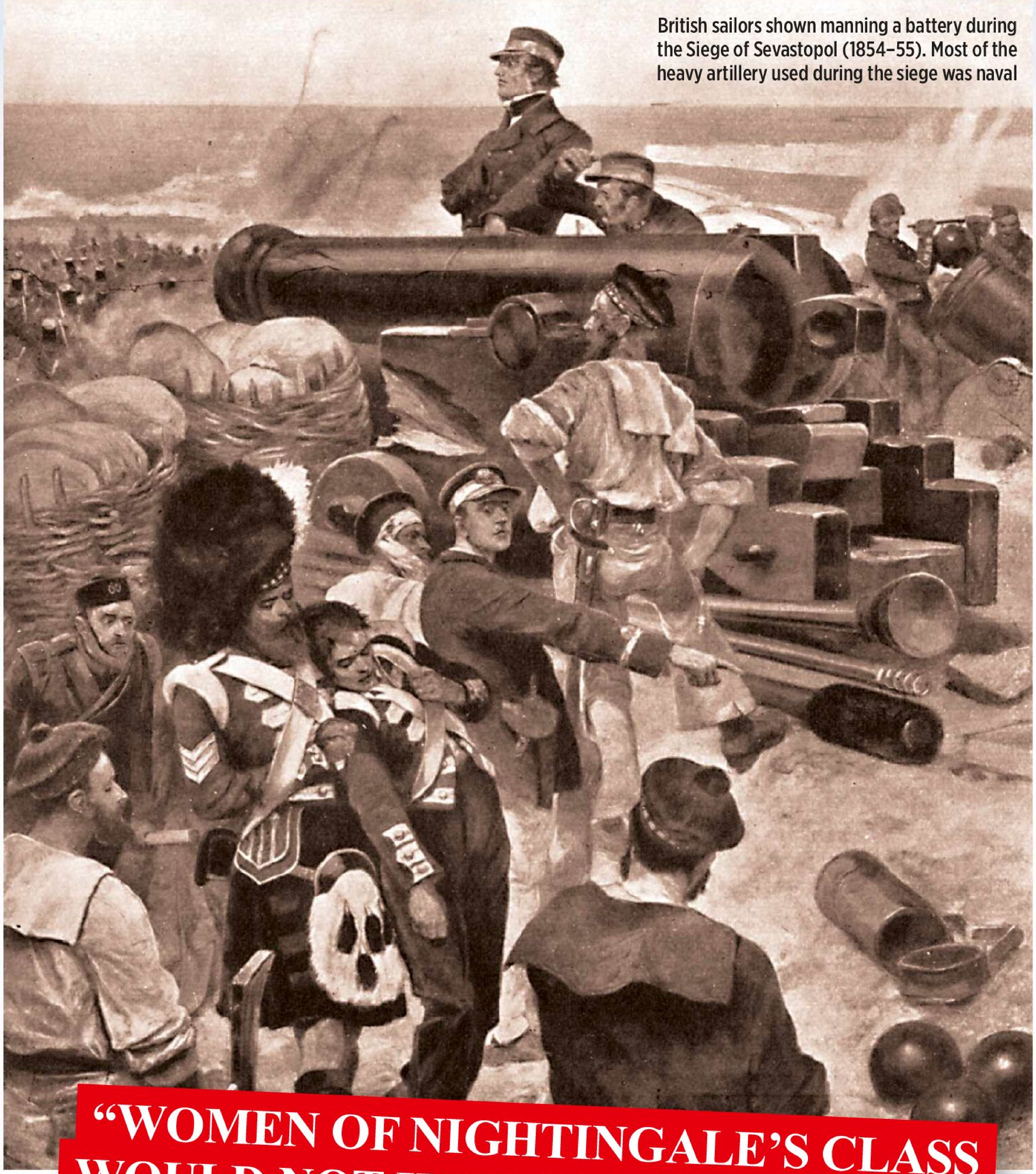
Florence Nightingale's most important achievement was to take command of a pretty disparate group of organisations that were sending people into the theatre of war. She imposed order and gained control of funds, so it was her managerial skills that really mattered. By contrast, Mary Seacole went to the Crimea to run a hotel, but she also took a very active role in first aid and dealing with the wounded as far as it's possible for one person to do.

Nightingale and Seacole were at different ends of the spectrum: one was organising aid as an extension of government, and the other was delivering aid as an extension of hospitality.

Q: Did any country have a distinct advantage in military hardware or weaponry?

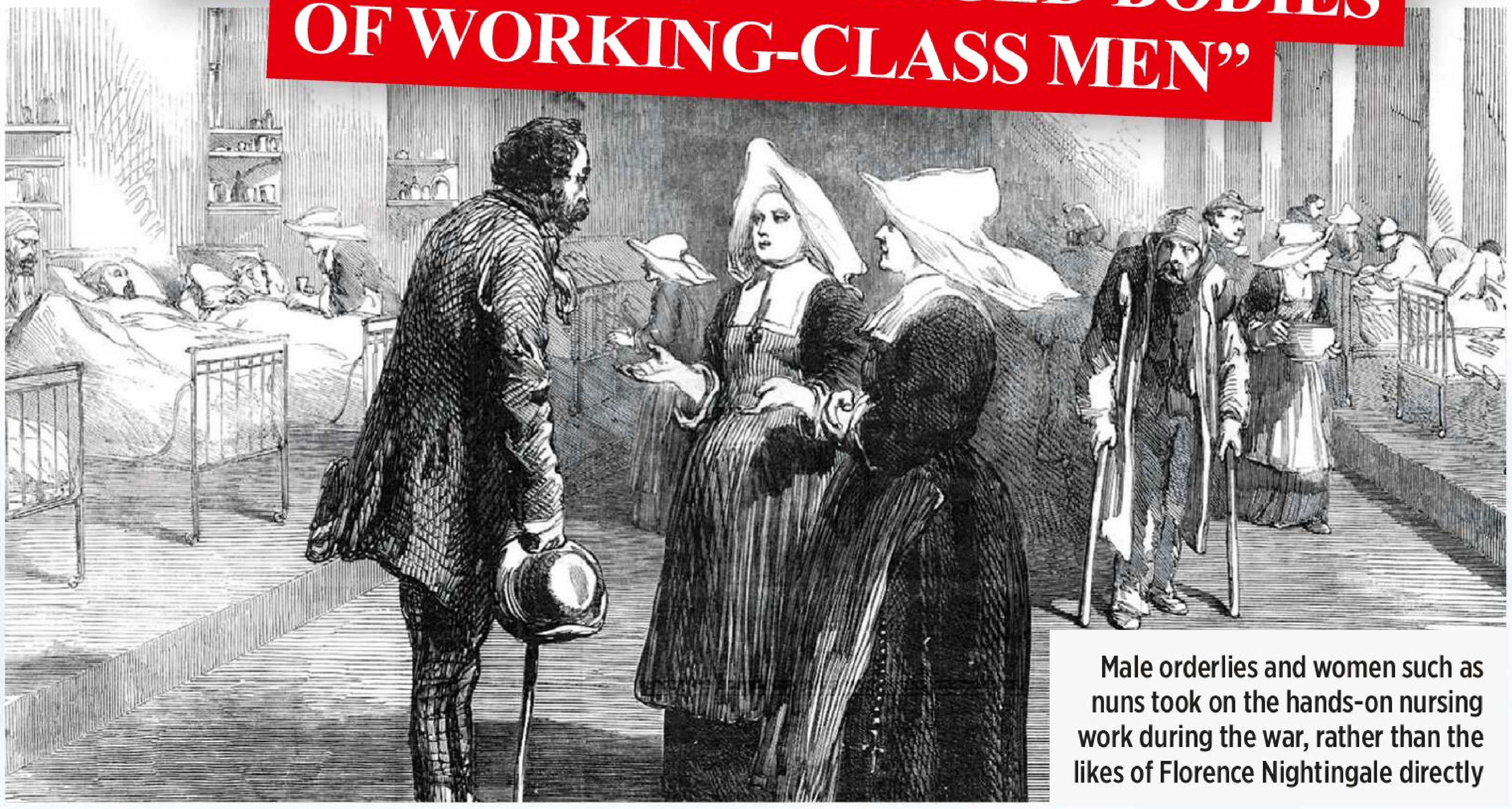
A: The British and French had a serious advantage on the battlefield. They used rifled muskets, which gave them an accurate range three times that of the Russians, who were using smoothbore muskets. That being said, the Russians in Sevastopol had lots of artillery, mostly big naval artillery, so they weren't short of firepower in that regard.

▶

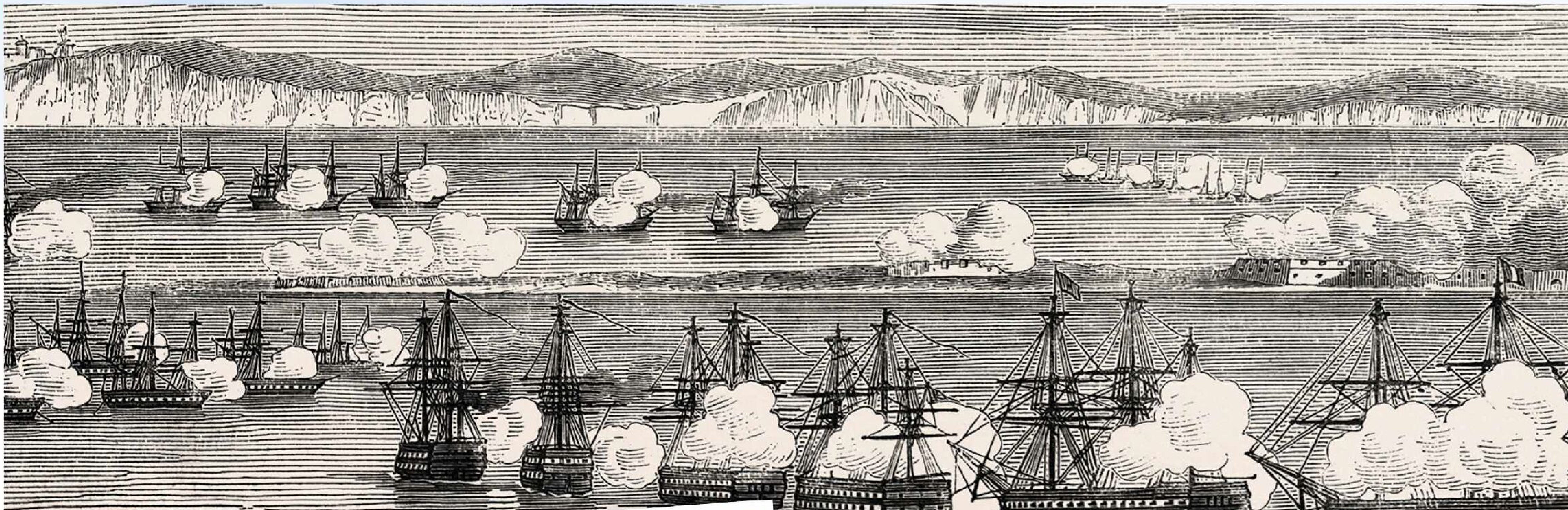


British sailors shown manning a battery during the Siege of Sevastopol (1854–55). Most of the heavy artillery used during the siege was naval

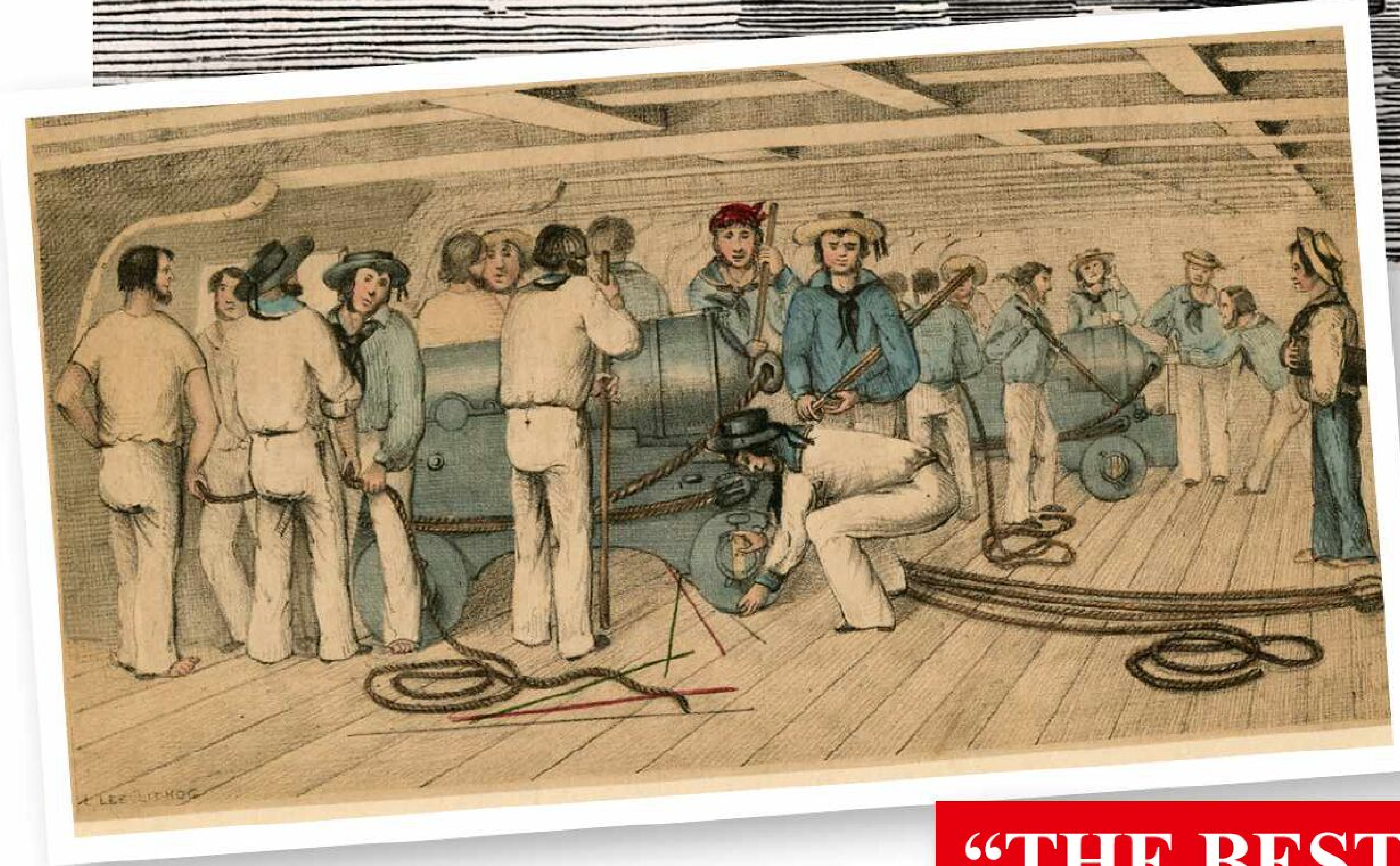
"WOMEN OF NIGHTINGALE'S CLASS WOULD NOT HAVE PUT THEIR HANDS ON THE DIRTY, DAMAGED BODIES OF WORKING-CLASS MEN"



Male orderlies and women such as nuns took on the hands-on nursing work during the war, rather than the likes of Florence Nightingale directly



ABOVE: **The allies used armoured warships – a world first – during their attack on Fort Kinburn in 1855**



LEFT: **A lithograph depicts sailors on the gun deck of a British warship around the time of the conflict**

> “THE BEST THAT RUSSIA COULD HAVE HOPED FOR WAS A DRAW AND FOR THE ALLIES TO GO HOME”

◀ The allies, however, had other advantages, including deploying the world's first armoured warships in battle. During their attack on Fort Kinburn (now in modern Ukraine) on 17 October 1855, three armoured batteries, specifically designed to attack coastal forts, were used by the French, and the British had several of these as well. The Russians, though, made the first use of underwater moored mines in an attempt to sink ships. The mines weren't big enough to actually sink any ships, but they laid big minefields that the allied navies had to sweep up.

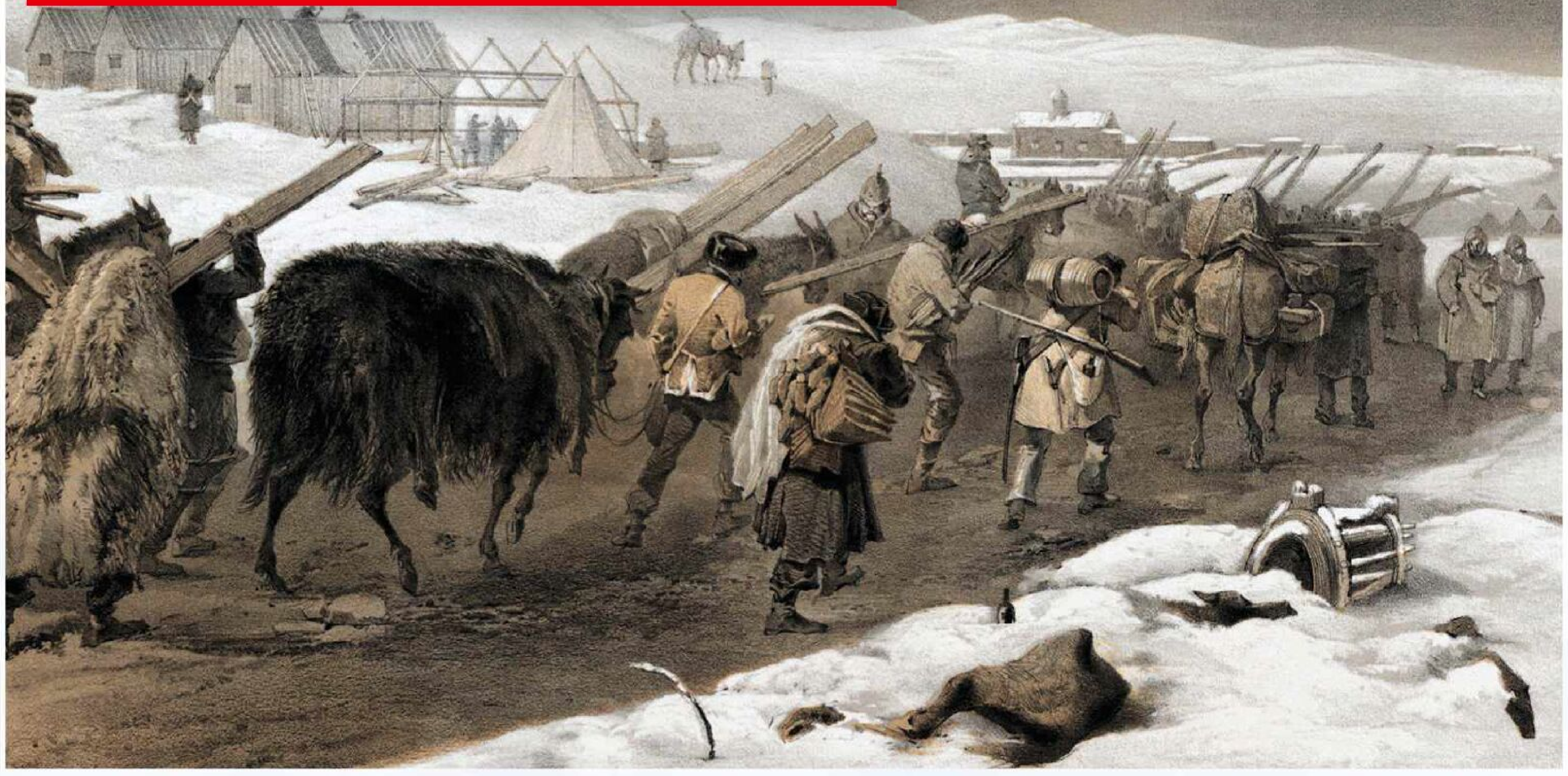
Allied horses, particularly the British horses, were very powerful animals known for their endurance. The Charge of Light Brigade was five times as far as an 18th-century cavalry force would have charged, so these were much bigger, stronger animals than those used in the past. The French, too, had very good horses, mainly of North African descent – smaller, agile horses more used to campaigning in rough terrain.

Steamships were massively important in the logistics of the war, and their use meant that by the middle of 1855, the allies were able to supply any number of men to the Crimea. There were nearly a quarter of a million allied soldiers in the Crimea living off supplies that were being brought to them by sea.

Q: Could Russia have won the war?

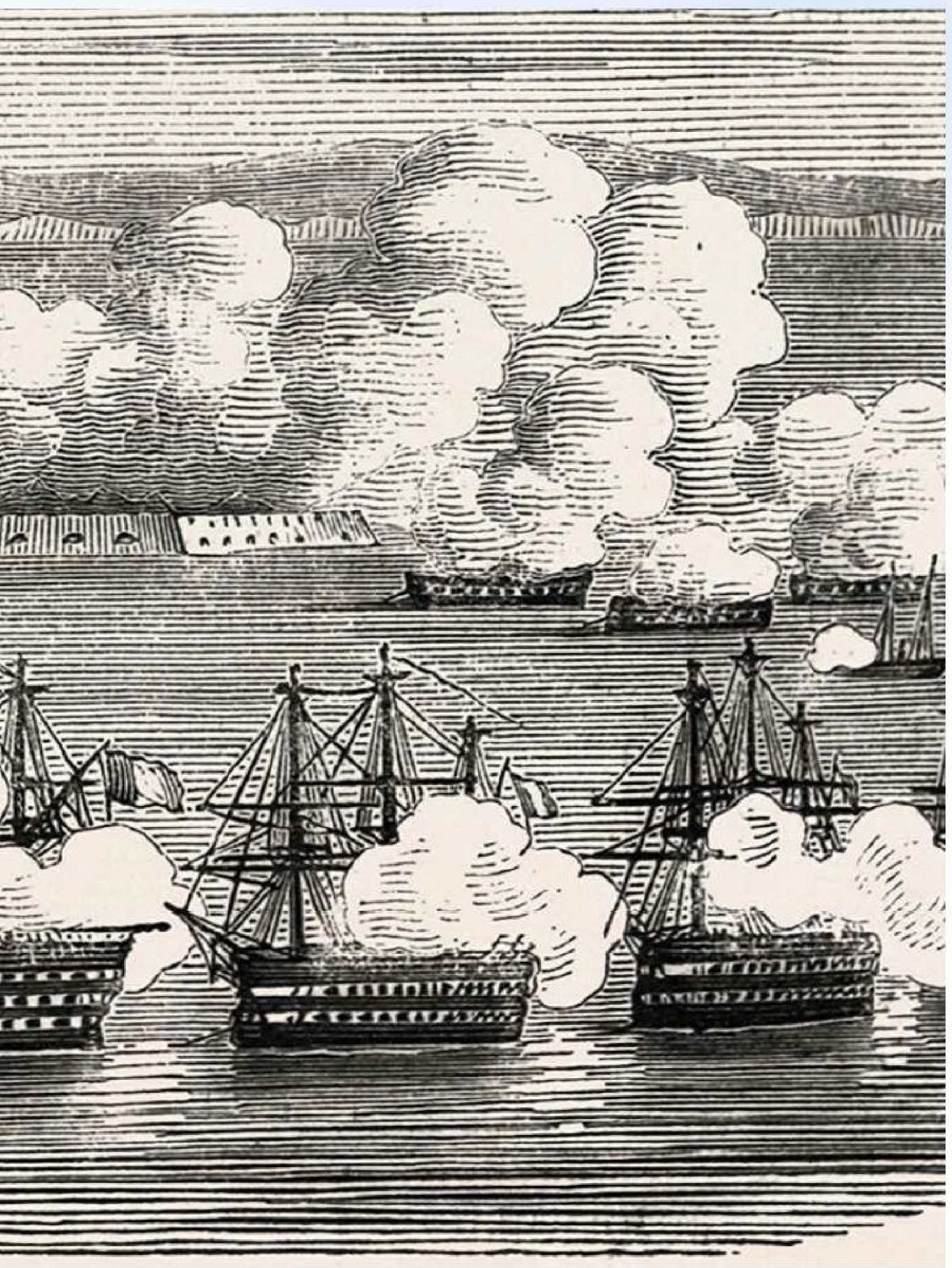
A: I don't think there was any way in which Russia could have won the Crimean War. The Russians had no means of attacking their real enemies: they could attack Turkey, but they couldn't get to Britain or France. The German powers were neutral, so the Russians couldn't march through Prussia and Austria.

This was the catastrophe of Russia's



A work by war artist William Simpson shows troops and horses carrying building materials to a British camp in the Crimea. The allies' horses were known for their resilience – although one unfortunate animal is shown lying dead in the foreground of this image

GETTY IMAGES X4, ALAMY X2



decision making: they picked a fight that they couldn't win. The best they could have hoped for was a draw and for the allies to go home. But that was presuming that the allies would lose the will to fight.

So, no, they could not have won this war. Defeat was inevitable – it was just a question of how long it took.

Q: Did geographical borders change as a result of the Crimean War?

A: There were some small border changes around Moldova but that's it, really. The main thing that happened after the war was the demilitarisation of many areas: the Black Sea became exclusively for merchant and police vessels, with no warships allowed, while in the Baltic the Åland Islands were demilitarised, meaning that the Russians couldn't rebuild their fortress at Bomarsund. This had a massive strategic impact and shifted the balance of power firmly in favour of the western maritime powers. It also meant that the British and French could send fleets into the Black Sea and the Russians could do nothing about it.

Elsewhere, Sweden ceased to be under the dominion of the Russian tsar, as it had been between 1815 and 1854, and joined the western world.

Q: What changes did the Crimean War bring about in the militaries of Europe and beyond?

A: The first thing to point out about the Crimean War is that pretty much everything that happened in the American Civil War (1861-65) was based on what had happened in the Crimea – from rifled muskets and trenches, to massive fortifications and ironclad warships. The ironclad Confederate warships of the American Civil War were essentially straight copies of what the British and French were using in 1855. And when Union soldiers went into battle wearing their peaked caps and baggy red trousers, they were dressing up like Frenchmen because the French had the best army in the world.

Every army in Europe was impacted by the Crimean War, too: they raced to get better rifles, better artillery, and they started thinking about new tactics as well.

Q: How did the conflict affect Russian identity?

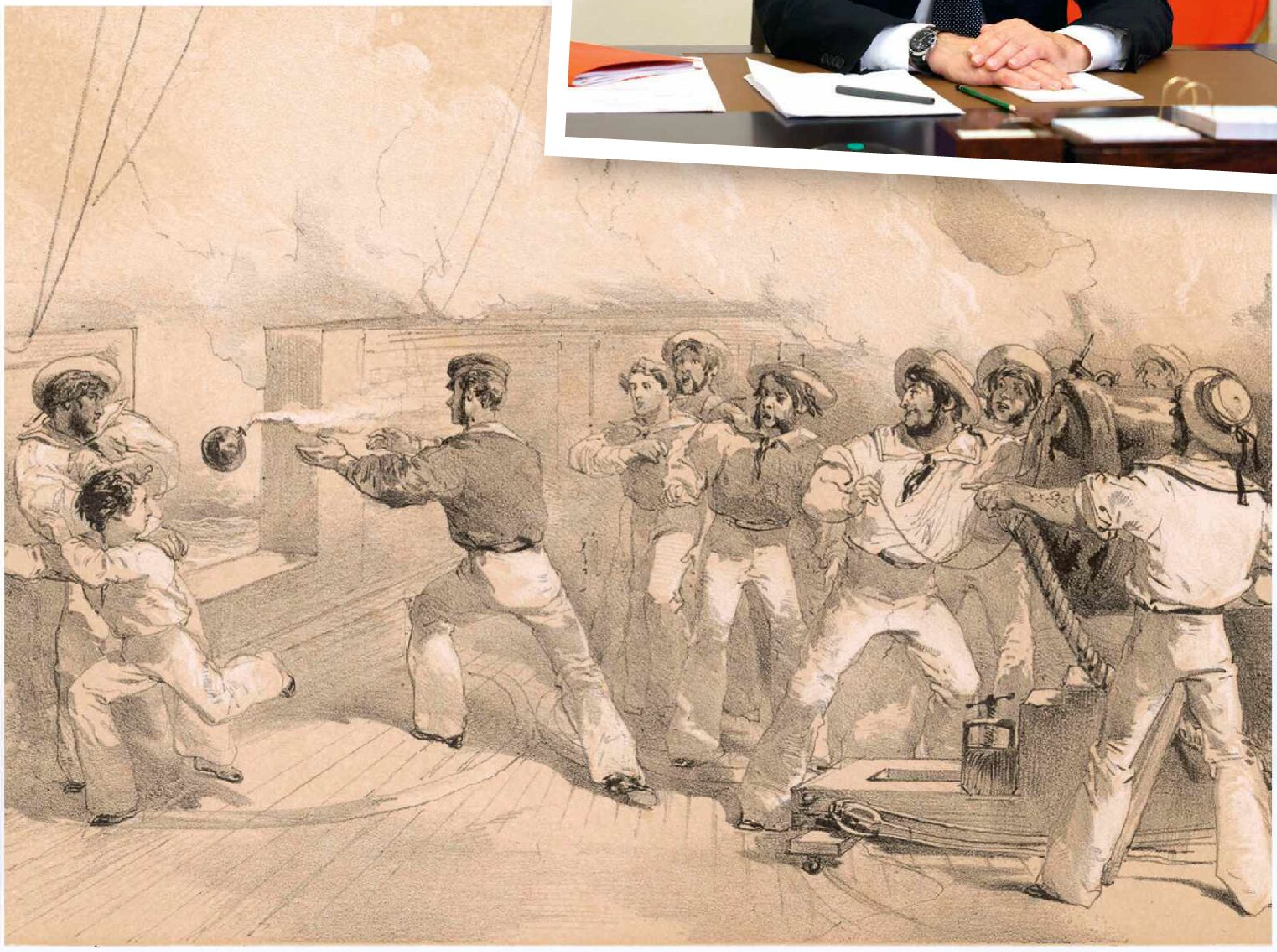
A: The Crimea is one of many wars in which the Russians assert that they were attacked by eastern or western powers who overran their territory and humiliated them. This is a belief that used to have real resonance in Ukraine, which was an area where – during the Crimean War – the Russians were propagandising and actively preparing the population to resist the western forces. Indeed, the arguments that Russian president Vladimir Putin is using today regarding the hostility of the west and the cultural damage that the west could cause has echoes with the earlier conflict.

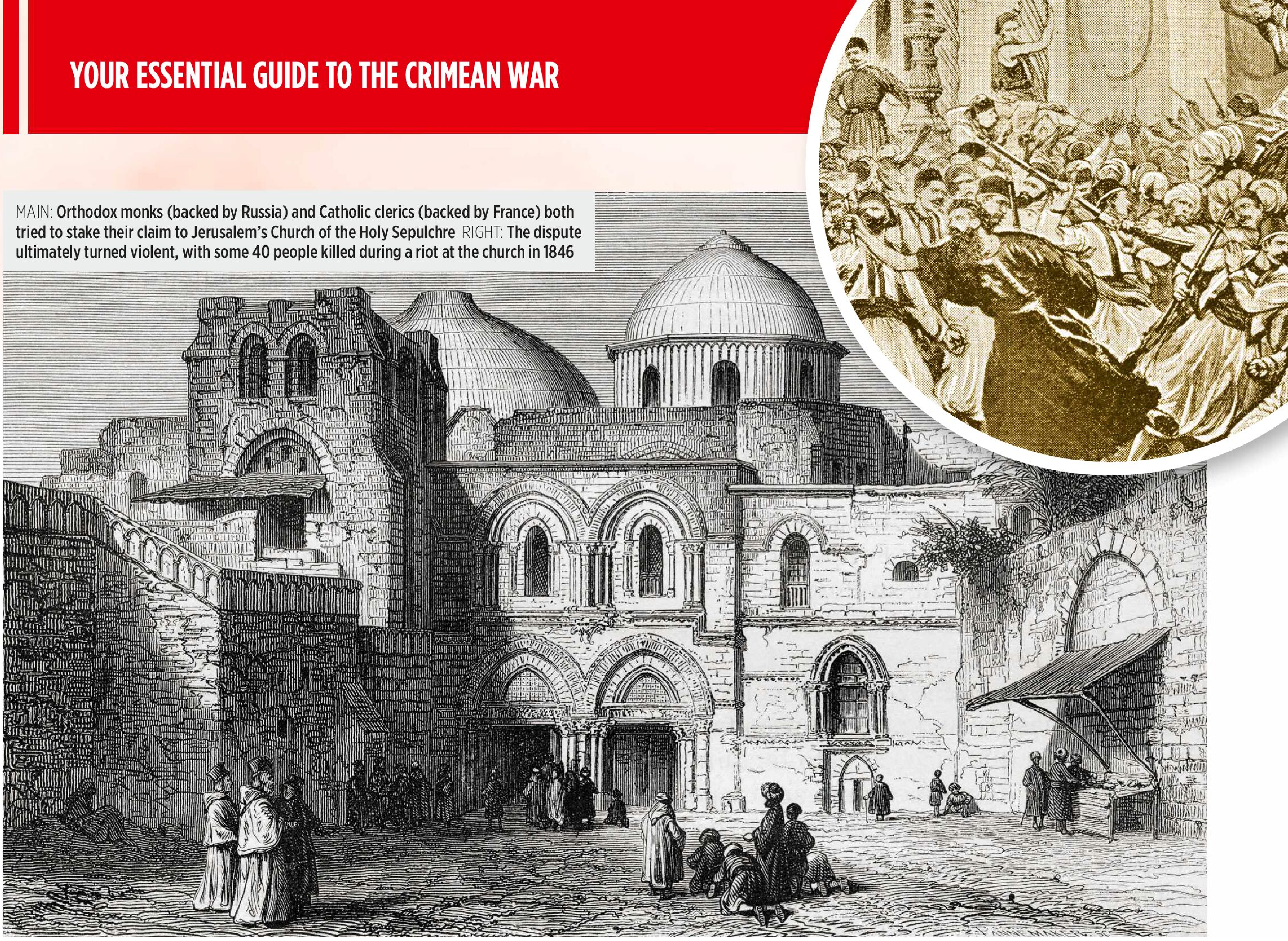
The big problem with the Crimean War is that, in Britain at least, we've completely forgotten the role of everybody else. We've forgotten who our allies were, that there was fighting in the Baltic, and that the main instrument of victory was economic warfare. Instead, we only seem to remember stories like the Charge of the Light Brigade, which are either not true or not as significant as they have been portrayed. We've confused the window dressing with strategic power. ⊙

ANDREW LAMBERT is Laughton professor of naval history in the Department of War Studies at King's College London. His books include *The Crimean War: British Grand Strategy against Russia, 1853–56* (Routledge, 2020)

Putin's recent rhetoric regarding Ukraine echoes Russian propaganda of the Crimean War

Charles Davis Lucas throws a live shell off the upper deck of HMS *Hecla* during the allies' attack on Bomarsund, 1854. The officer's heroics resulted in him becoming the very first recipient of the Victoria Cross





MAIN: **Orthodox monks (backed by Russia) and Catholic clerics (backed by France) both tried to stake their claim to Jerusalem's Church of the Holy Sepulchre** RIGHT: **The dispute ultimately turned violent, with some 40 people killed during a riot at the church in 1846**

THE GREAT UNRAVELLING

Religious tensions and Russian ambitions shattered the system that had long prevented war between Europe's major powers

Mention the Crimean War to most people, and many will immediately think of the Light Brigade charging into a blizzard of Russian bullets and Florence Nightingale tending stricken British troops. Yet the incident that made this brutal 19th-century conflict all but inevitable involved monks not Redcoats, crucifixes not sabres – and there wasn't a nurse in sight.

Just a few years before the Crimean War broke out, the Church of the Holy Sepulchre in Jerusalem, believed by many to sit on the very spot where Jesus Christ was crucified, found itself at the centre of a vicious brawl between two sets of opposing holy men. On one side stood Jerusalem's Orthodox monks; on the other its Catholics clerics. The issue over which these two rival branches of Christianity butted heads was the question of who wielded ultimate control over the most sacred sites in Palestine.

For years, tensions had been escalating at churches across the holy land. It was at the Church of the Holy Sepulchre, however, that the rivalry turned physical, with the two groups coming to blows with fists, knives, candlesticks and crucifixes.

Such was the level of violence that, in 1852, Lord Malmesbury, British foreign secretary, commented on "the melancholy spectacle" of "rival churches contending for mastery in the very place where Christ died for mankind".

Melancholy it might have been but the dispute was hugely consequential – for both sets of monks had powerful backers. The Orthodox clerics were supported by the Russian empire; their Catholic foes championed by France, which had recently allied itself with Britain.

For more than a decade these European superpowers had engaged in an increasingly dangerous dance of diplomatic brinkmanship. The monks' battle in Jerusalem set them on a seemingly irreversible course for war.

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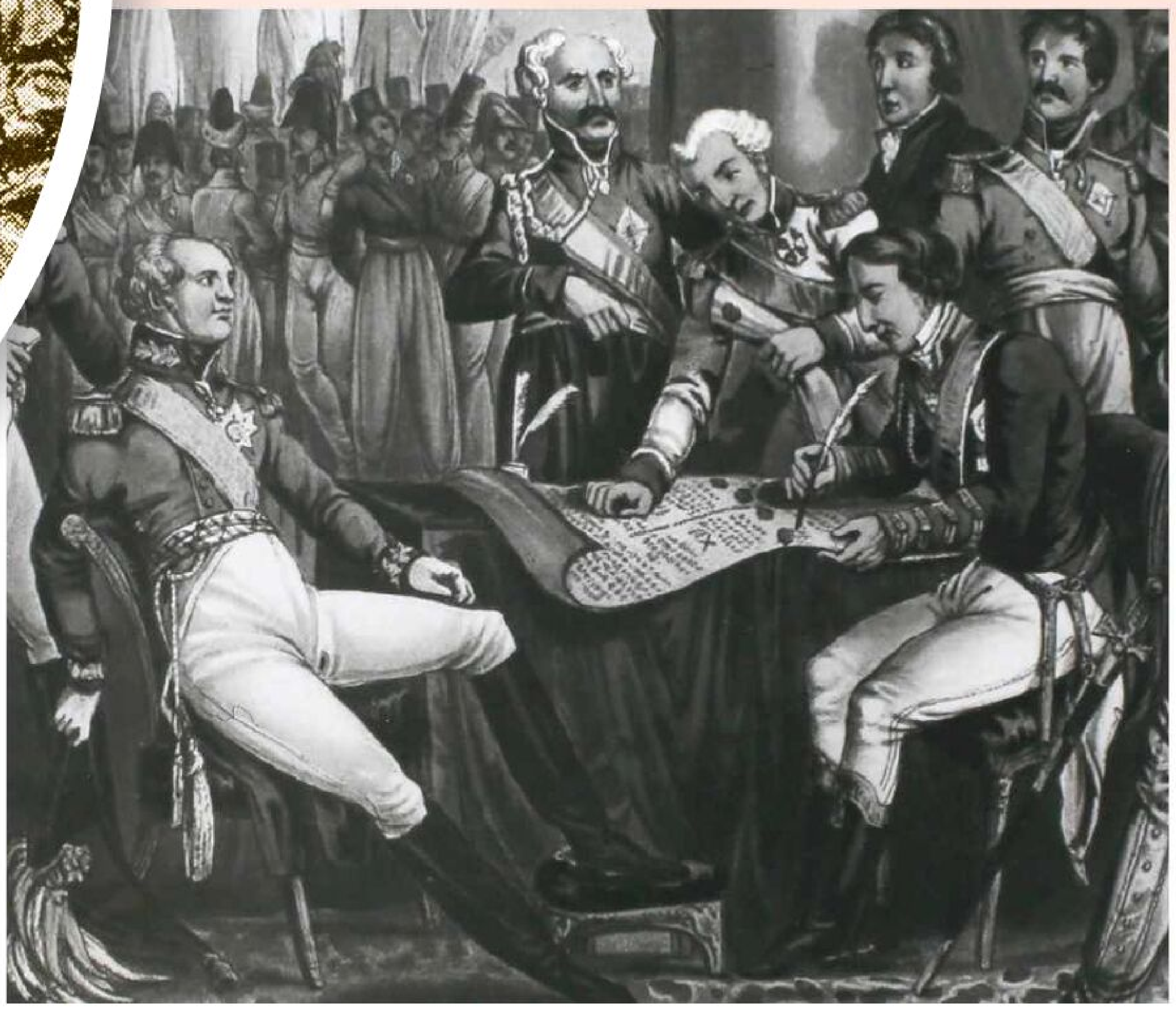


The Treaty of Vienna, signed in the wake of the Napoleonic Wars, had aimed to prevent another 'strongman' from attempting to conquer Europe

To understand why, we need to leave Palestine and travel back to the city of Vienna in 1815. For it was here, in the Austrian capital, that a treaty was signed in the wake of the Napoleonic Wars that would set the template for Europe's balance of power across the 19th century.

NAPOLEONIC ROOTS

There were numerous beneficiaries of the Treaty of Vienna, but it can be argued that no nation gained more than Britain. The negotiations that preceded the treaty saw the British attempting to engineer a network of alliances that prevented a single strongman ever dominating Europe again (as Napoleon Bonaparte had once done), so they could avoid another costly war and get on with the business of running their global empire. For the most part, Britain got its way.

This outcome no doubt delighted politicians in London. Less happy was the leader of another nation that had emerged victorious from the Napoleonic Wars: Russian tsar Alexander I. Nationalist and expansionist, Alexander had designs on being the European strongman that Britain most feared. He and his even more militaristic successor, Nicholas I, railed against British power and the liberal, democratic ideals that they saw emanating from the west. The scene was now set for an intense geopolitical rivalry.

In the middle of these two nations sat the Ottoman empire, a centuries-old imperium whose ailing condition had earned it the nickname "the sick man of Europe". That sick man status had already seen it fall foul of Russia's expansionist ambitions. As early as the 1780s the Russians had seized the Black Sea port of Sevastopol in order to gain its fleet a priceless warm water harbour. When, in the 1820s, Russian forces advanced into Ottoman Bulgaria, the Caucasus, and northeastern Anatolia, British fears of Russia's million-strong army surging towards India, the jewel in its imperial crown, rose sharply.

As the middle of the century approached, the flames of Anglo-Russian tensions were fanned further by the re-emergence of France as a military power. The French were also fearful of growing Russian ambitions and added another combustible element to the mix: religion. Paris threw its weight behind the claims of Catholic monks to be the true authority over Palestine's holy sites – in direct opposition to Russian-backed Orthodox clerics. The result was the battle of the Church of the Holy Sepulchre in Jerusalem.

These religious tensions were the spark that ignited a diplomatic tinderbox. The Ottomans, in whose territory Palestine was sited, found themselves the rope in an increasingly vigorous tug of war between the Russians and their Anglo-French rivals. When the Ottomans acknowledged Russian authority over Palestine's Christians, Paris sent a battleship, the *Charlemagne*, to Istanbul to encourage them to change their mind. When this French brand of gunboat diplomacy worked, the Russians sent their own military mission to the Danubian Principalities (modern Romania) on the Russo-Turkish border.

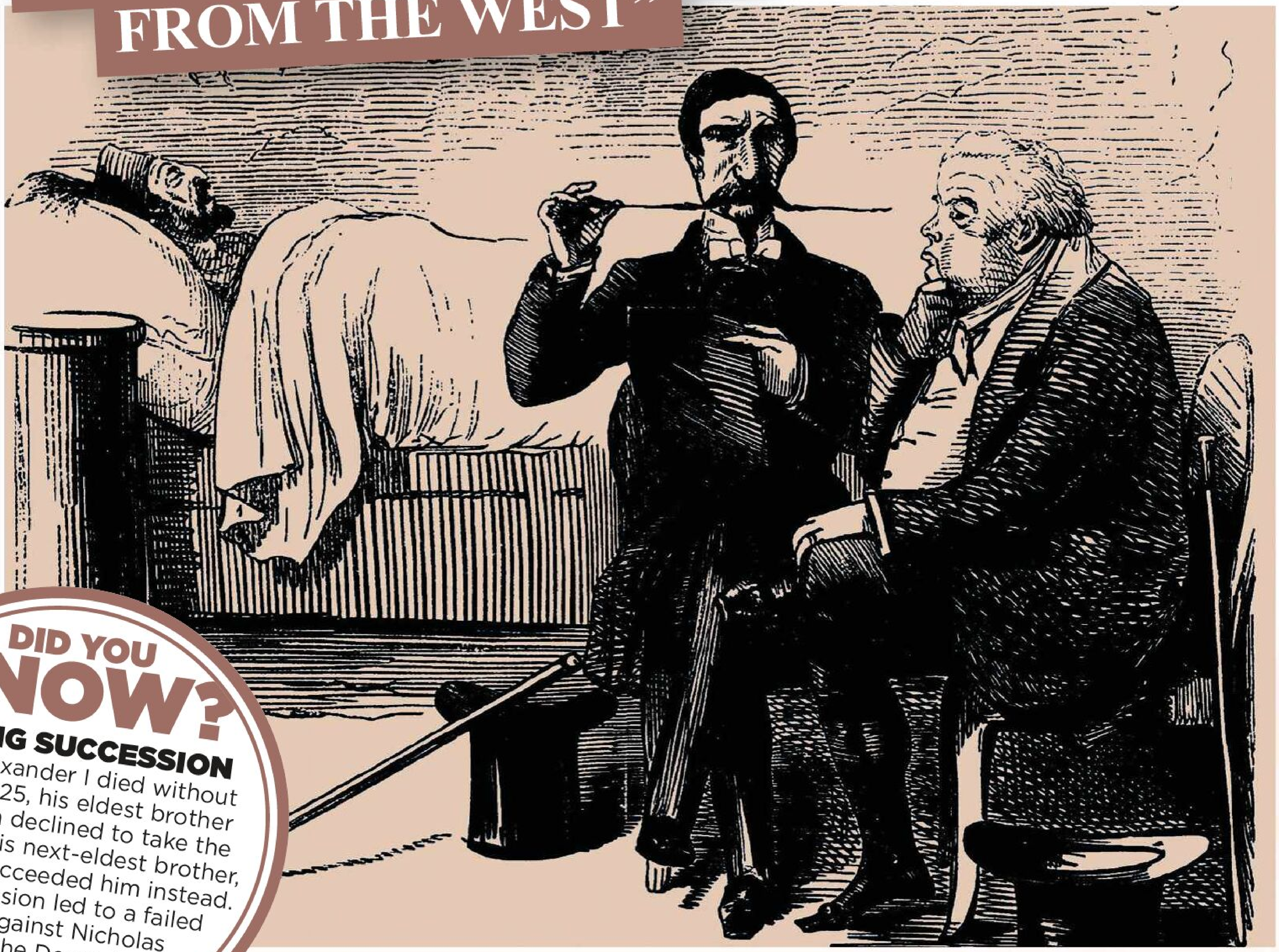
OTTOMAN OUTRAGE

With talks failing and Tsar Nicholas I left fuming at "the infernal dictatorship" of Stratford Canning, Britain's ambassador to the Ottoman empire, conflict moved ever closer. And so it proved in October 1853, when the Turks, enraged at Russian incursions, declared war on Moscow.

For now Britain and France stayed out of the conflict. Yet all that changed in the wake of the battle of Sinop on 30 November 1853, which saw Russian battleships pounding Ottoman ships in the Black Sea, killing nearly 3,000 Turks. Within two months, French and British fleets had themselves sailed to the Black Sea. On 28 March 1854, with public opinion still inflamed by the bloodbath at Sinop, they entered what would soon be known as the Crimean War.

WORDS: SPENCER MIZEN

"THE TSARS RAILED AGAINST THE LIBERAL, DEMOCRATIC IDEAS THEY SAW EMANATING FROM THE WEST"



An 1853 cartoon shows Britain's Lord Palmerston and France's Napoleon III debating what they should do with the Ottoman empire – represented here by Sultan Abdul Mejid I as a literal "sick man" of Europe

DID YOU KNOW?

SIBLING SUCCESSION

When Alexander I died without issue in 1825, his eldest brother Konstantin declined to take the throne, so his next-eldest brother, Nicholas, succeeded him instead. The confusion led to a failed coup against Nicholas called the Decembrist Revolt.

THE BATTLES THAT SHAPED THE CRIMEAN WAR

From the first clash along the Danube to the fierce fight to take Sevastopol, we examine the conflict's most important encounters

THE BATTLE OF OLTENIȚA

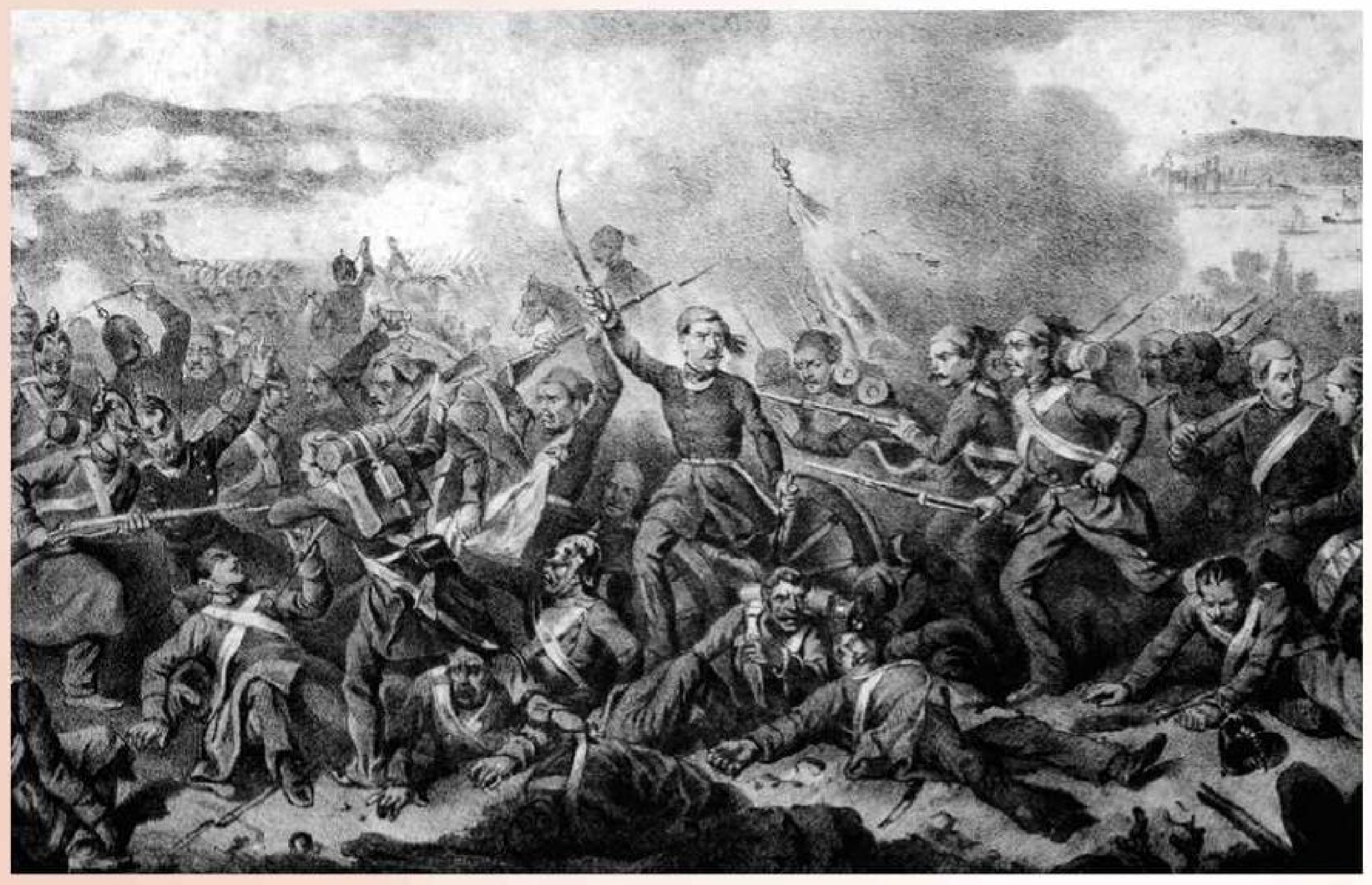
4 NOVEMBER 1853

OTTOMAN VICTORY

- 8,000 Ottomans v 6,000 Russians
- Killed: 30 Ottomans, 600–700 Russians

The war's first military engagement came several months before Britain and France joined the hostilities. Near the village of Oltenița in the region of Wallachia (now part of Romania), the Ottomans established fortified positions on the banks of the River Danube, ready to defend their territory against the steadily advancing Russians under the command of General Peter Dannenberg.

As his troops approached these defences, Dannenberg moved his infantrymen to the front. However, despite some of them managing to breach the fortifications' moat, the Russians suffered heavy losses and were recalled, clearly unprepared for the level of artillery required to destabilise the Ottomans' defences. Perhaps surprisingly, the Ottomans didn't pursue the retreating Russians, content to have merely contained the opening battle of what would be a drawn-out war. But while not a crucial victory militarily, Oltenița's impact was more to do with psychology and morale.



The Ottoman forces successfully repelled the Russians at Oltenița, scoring a morale-boosting victory, as well as a tactical victory, in the process

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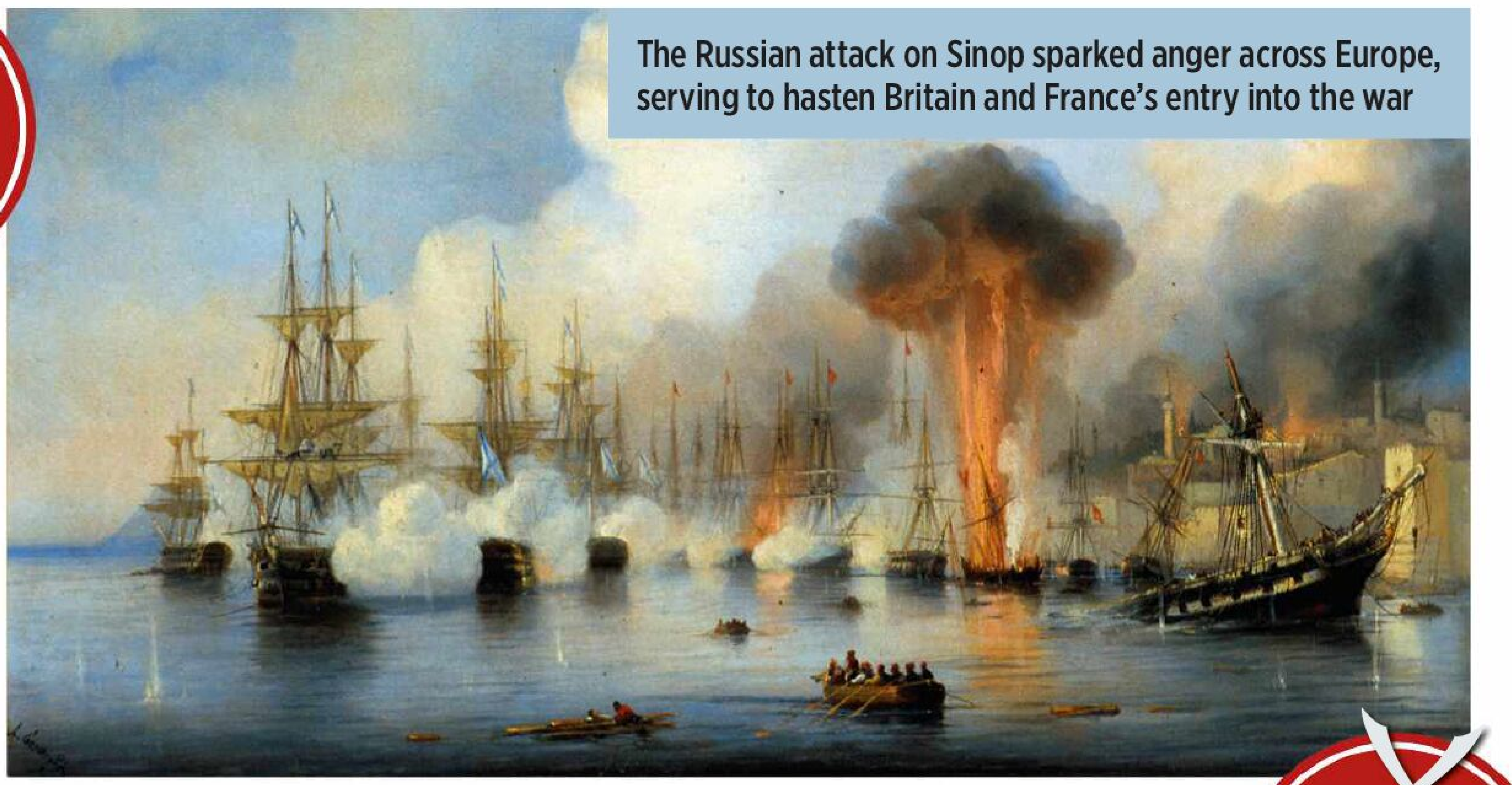


The Russian attack on Sinop sparked anger across Europe, serving to hasten Britain and France's entry into the war

THE BATTLE OF SINOP

30 NOVEMBER 1853

RUSSIAN VICTORY

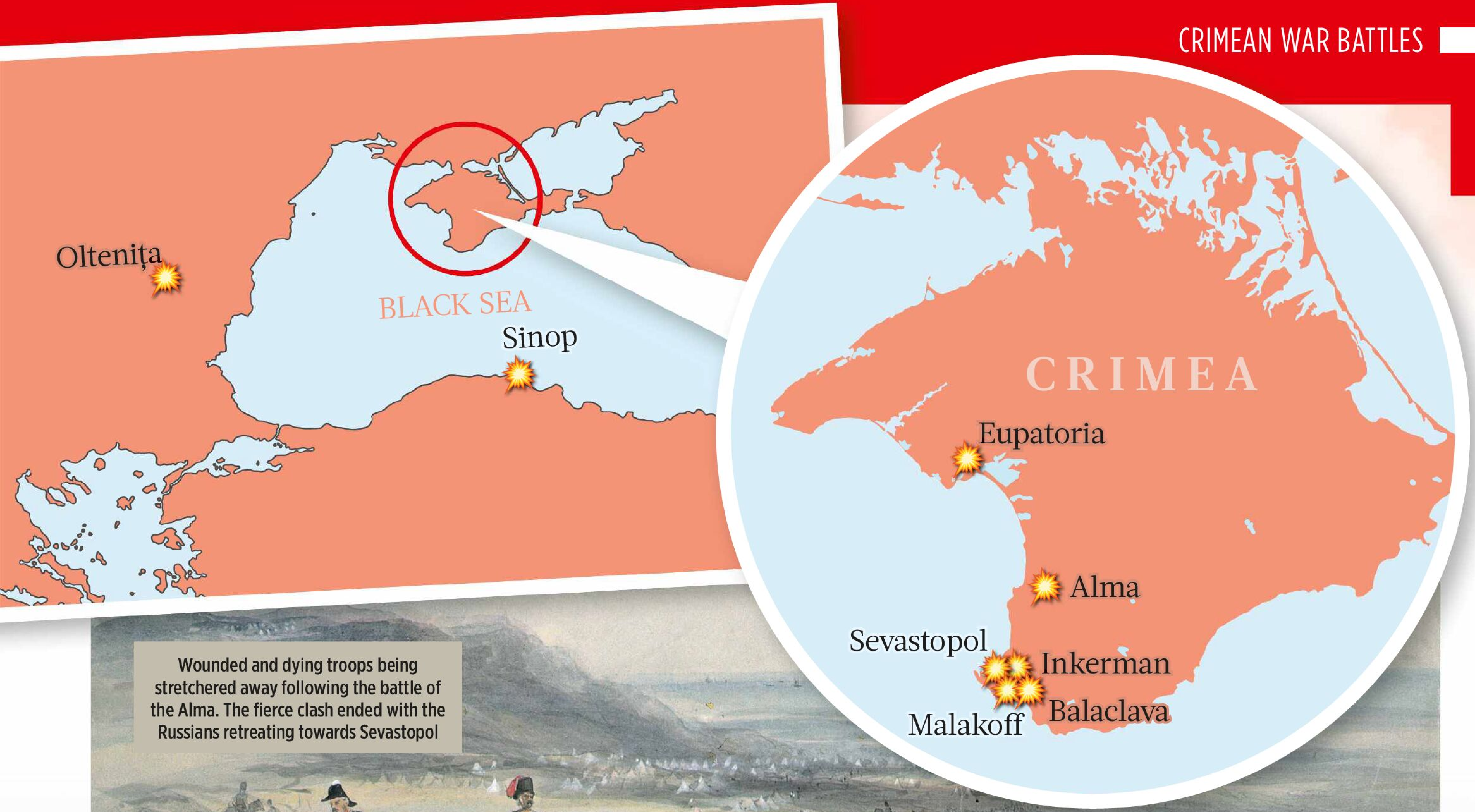
- 12 Ottoman ships v 11 Russian ships
- Killed: 3,000 Ottomans, 37 Russians

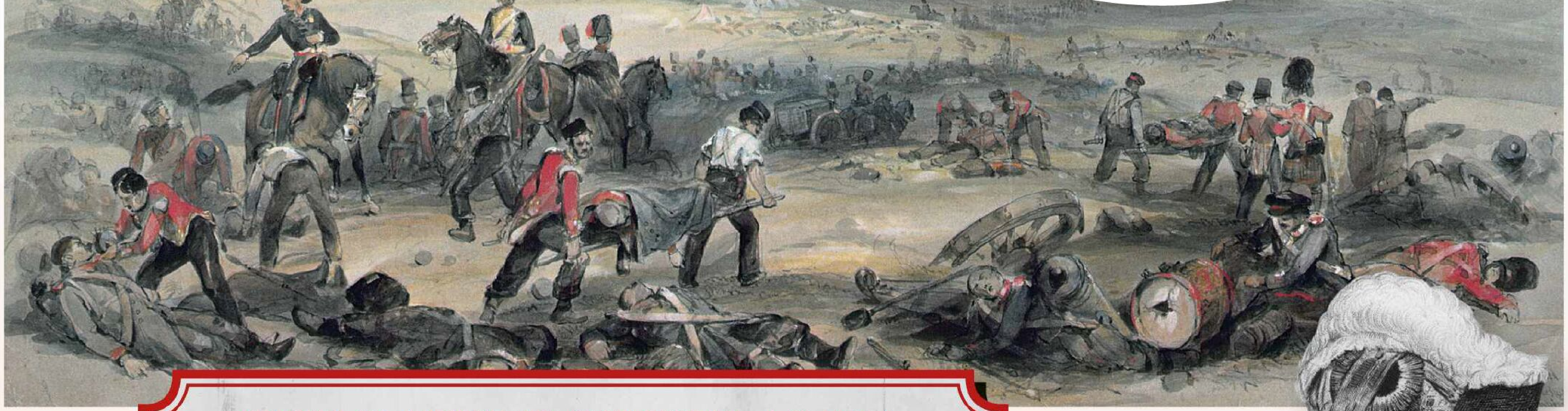
Less than a month after Russian progress on land had been derailed at Oltenița, the first naval battle of the war gave Russia a significant victory. At the port of Sinop on the Black Sea's southern shore, a Russian fleet – including six battleships – attacked a dozen smaller Ottoman ships in the town's harbour, all but one of which were sunk or run aground. The Russian squadron remained intact.

As well as benefitting from the element of surprise, this dominant victory was testament to the Russians' deployment of explosive shells which, far more destructive than cannonballs, decimated the wooden hulls of the Ottoman vessels. Not content with demobilising these ships in such a brutal and unrelenting manner, the Russians then turned their aim on Sinop itself, shelling the town and claiming the lives of a great many civilians.

Back in St Petersburg, the authorities were both relieved and ecstatic that the hefty financial investment made in upgrading the Russian navy had produced such an emphatic result. Elsewhere in Europe, the unprovoked nature of the attack in Sinop drew instant condemnation; the word 'massacre' was never far from critics' lips. Deep concern over both Russia's intentions and its naval firepower fuelled and strengthened the argument for western Europe to become engaged militarily in the conflict. Amid a growing anti-Russian fervour, British and French warships entered the waters of the Black Sea in January 1854. The war was no longer simply Ottoman versus Russian.

PLEASE NOTE: THE STRENGTH AND CASUALTY NUMBERS SHOWN HERE ARE ESTIMATES ONLY. FIGURES CAN VARY BETWEEN DIFFERENT SOURCES.





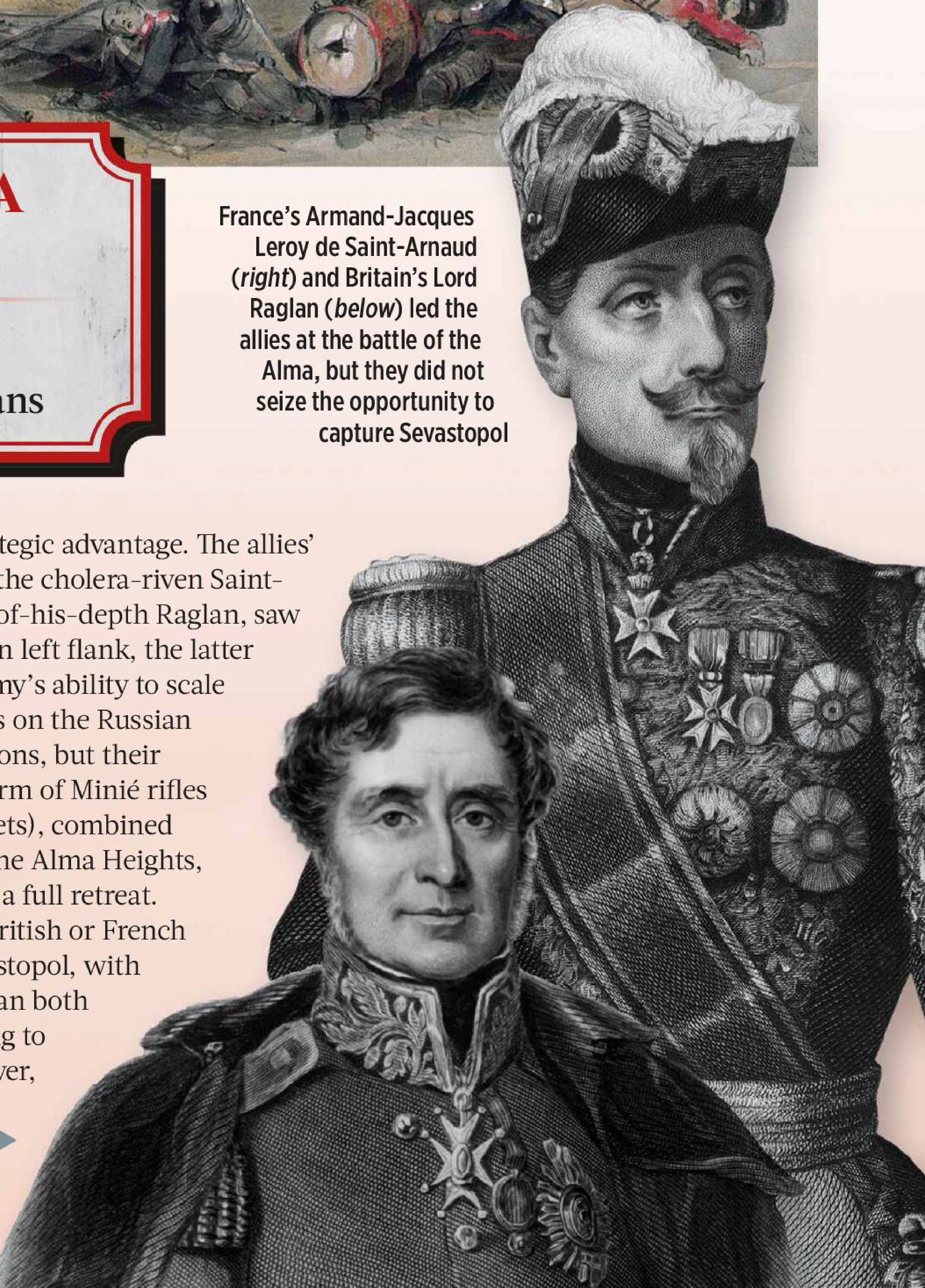
Wounded and dying troops being stretchered away following the battle of the Alma. The fierce clash ended with the Russians retreating towards Sevastopol

THE BATTLE OF THE ALMA

20 SEPTEMBER 1854

ALLIED VICTORY

- 58,000 allies v 37,500 Russians
- Killed or wounded: 4,100 allies, 5,000 Russians

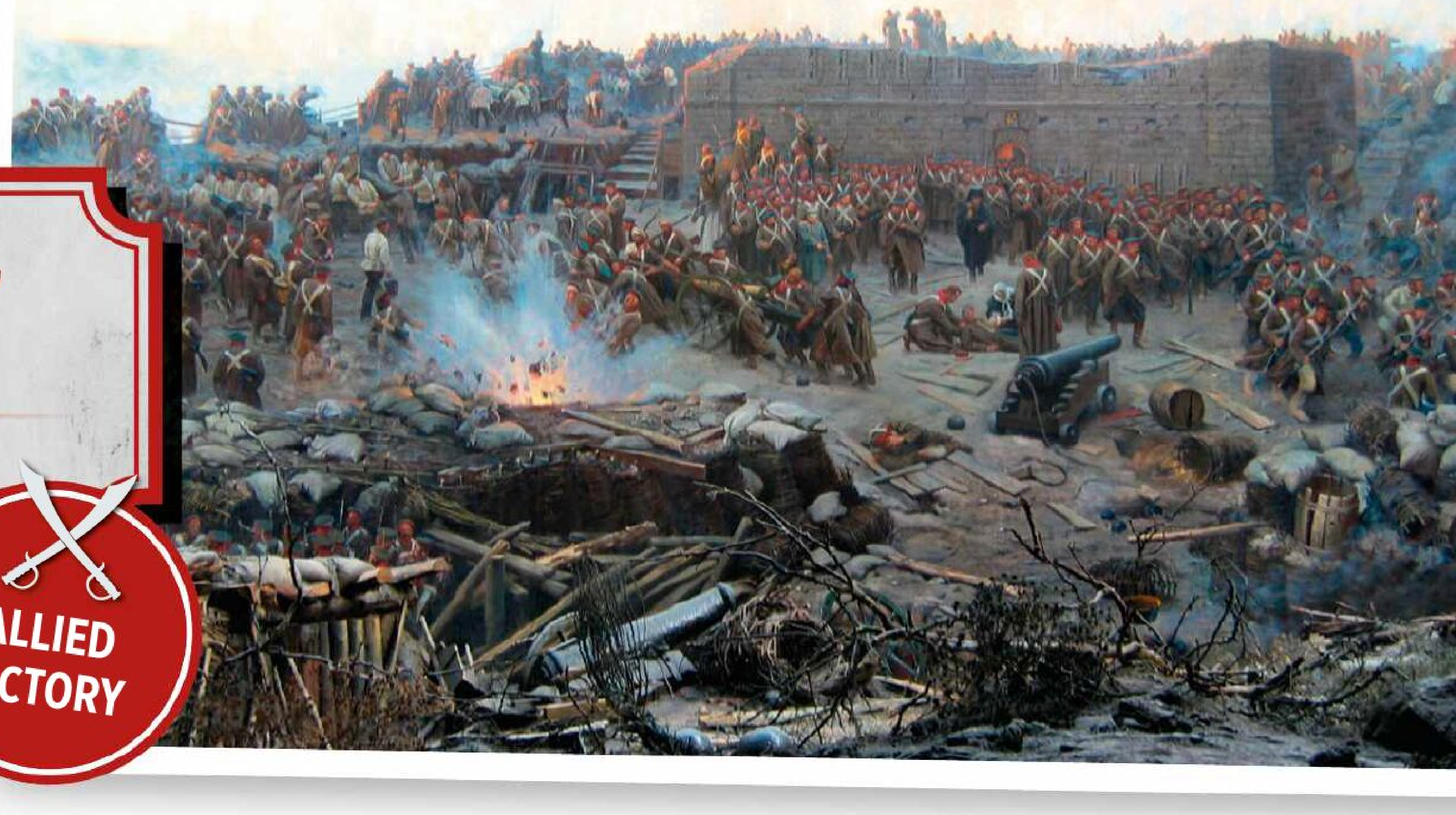


France's Armand-Jacques Leroy de Saint-Arnaud (*right*) and Britain's Lord Raglan (*below*) led the allies at the battle of the Alma, but they did not seize the opportunity to capture Sevastopol

In mid-September 1854, an allied force of British, French and Ottoman troops landed on the Crimean Peninsula in a move not foreseen by Russia, which hadn't predicted a land campaign as winter approached. Under the command of Britain's Lord Raglan and France's Armand-Jacques Leroy de Saint-Arnaud, the combined forces were vast in number. Such was the scale of the allied effort – hundreds of vessels laden with armour, horses and men had crossed the Black Sea – that it took five days for the entire party to disembark before the massed ranks began to march towards the strategically significant port of Sevastopol, around 35 miles away.

After a comparatively minor clash between the allies and the Russians at the Bulganak River, stiffer resistance was in place seven miles away at the mouth of the Alma River, where the Russians had taken up position atop the Alma Heights, a series of bluffs and cliffs which gave them a strategic advantage. The allies' tactics, largely drawn up by the cholera-riven Saint-Arnaud rather than the out-of-his-depth Raglan, saw the French attack the Russian left flank, the latter being surprised at their enemy's ability to scale the cliffs. The British assaults on the Russian right flank overran key bastions, but their superior firepower (in the form of Minié rifles that fired hollow-based bullets), combined with the French capture of the Alma Heights, drove the Russian army into a full retreat.

Remarkably, neither the British or French forces pursued them to Sevastopol, with Saint-Arnaud and Lord Raglan both blaming each other for failing to seize the opportunity. However, Raglan had his eye on a different port: Balaclava. ▸



The siege of Sevastopol lasted nearly a year and saw the city's defenders endure six heavy bombardments – the final bombardment being the most devastating

THE SIEGE OF SEVASTOPOL

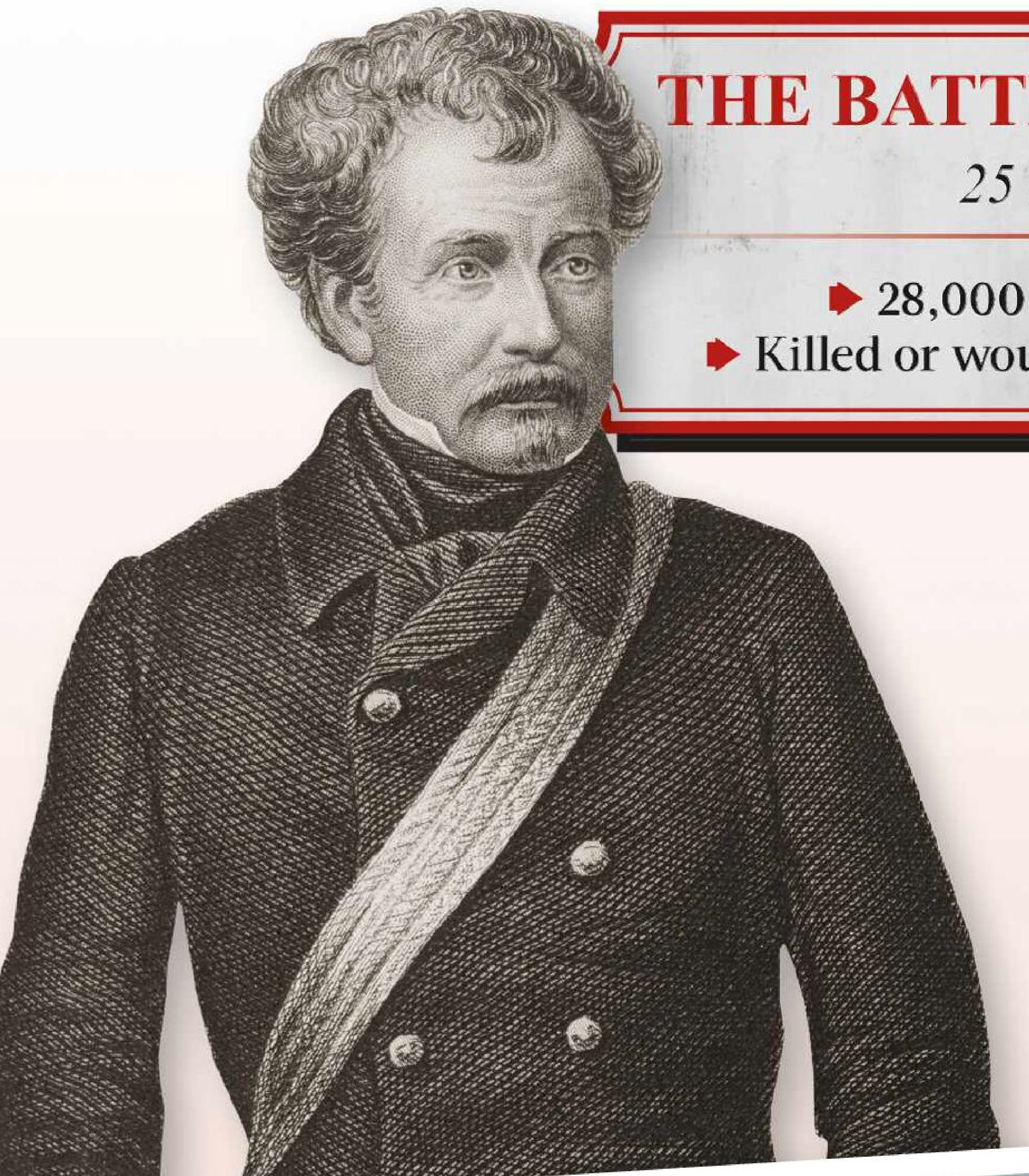
17 OCTOBER 1854 – 11 SEPTEMBER 1855

Killed: 128,387 allies, 102,000 Russians

ALLIED VICTORY

The capture of Sevastopol – ahead of other ports on the Crimea Peninsula – had been a primary objective for the allied powers for one overriding reason: it was the base of Russia's Black Sea fleet, the means through which Nicholas I intended to secure footholds across the Mediterranean basin. Destroying the fleet – or at least disabling it – was crucial in stymying the tsar's expansionist ambitions. The allies chose to pen in Russian forces in the city, and in the process, they ended up creating one of the most famous sieges in history.

While the allies had 120 guns pointed at Sevastopol, both from the Black Sea and from the uplands south of the city, the Russians had three times as many to use for their defence, utilising the naval artillery repurposed after they had scuttled in excess of a dozen of their own ships to prevent the allies' capture of them. While many significant battles were won and lost beyond the siege lines the allies had constructed, the siege itself became a feature for nearly the next 12 months. The Russians withstood half a dozen heavyweight bombardments in Sevastopol during this time, but the sixth was particularly damaging, claiming between 2,000 and 3,000 Russian casualties on each of its three days. The heroic defence eventually mutated into a reluctant abandonment and retreat.



THE BATTLE OF BALACLAVA

25 OCTOBER 1854

28,000 allies v 25,000 Russians

Killed or wounded: 615 allies, 627 Russians

NO VICTOR

Following their retreat at the battle of the Alma, the Russians spent the next month regrouping ahead of the next skirmish. While redeployed personnel from the Russian navy defended Sevastopol from inside the city, General Alexander Menshikov's soldiers operated beyond the allies' siege lines, able to move around the countryside as they tried to find the weakest section to attack.

They found it to the south, around the town of Balaclava. Lord Raglan had moved his men there after Alma, but didn't have enough troops to offer the most watertight defence of the siege's right flank. The Russians' first attack was on Ottoman forts on the Vorontsov Heights, and it was a successful encounter, with the Ottomans forced to retreat after an initial spell of stubborn defence. The Russians then approached the second defensive line in the region, one formed by Ottoman infantrymen and the British 93rd Highland Regiment.

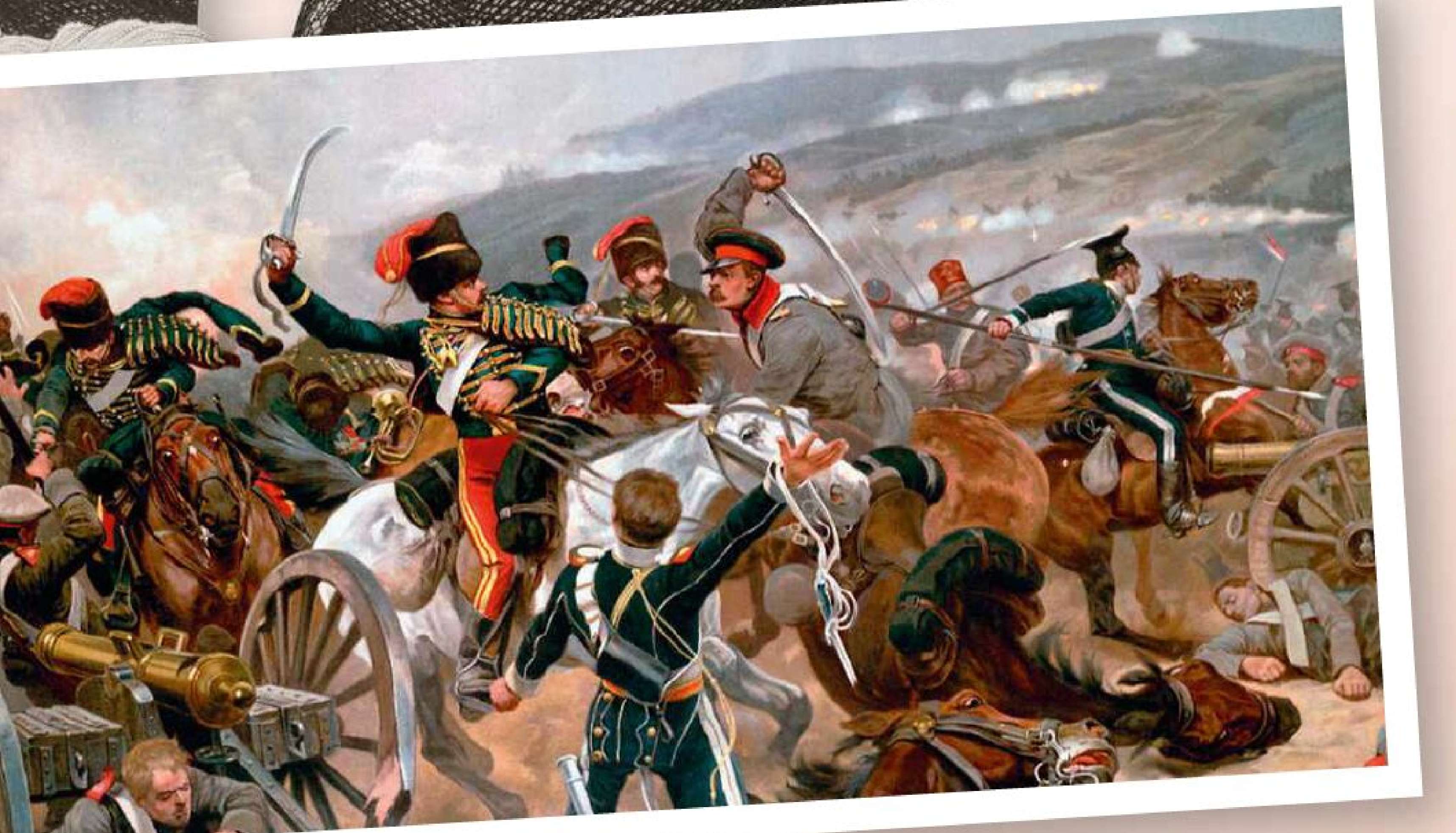
At dawn, the regiment's commander, Major-General Colin Campbell, outlined to his troops what was about to occur at what was the last defensive line between the Russians and the town of Balaclava. "There is no retreat from here, men," he told them bluntly. "You must die where you stand." Without the numbers to set them up four-deep, as was customary, Campbell's defences were half as shallow. In their red uniform jackets, the 93rd met the oncoming Russian cavalry charge with two volleys of fire: one from 800 yards away and a second from 500 yards. This was sufficient. The Russians turned and fled, although Campbell had been forced to order the 93rd not to charge them with their bayonets. "93rd! 93rd! Damn all that eagerness!"

THE VALLEY OF DEATH

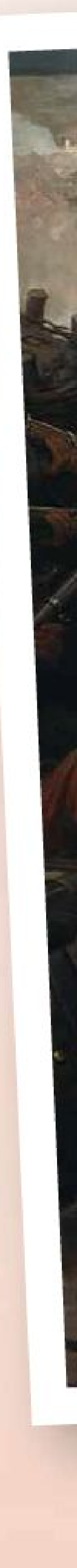
His advice might have served the equally eager Lord Raglan. Keen to deter the Russians from making off with British guns captured from Ottoman redoubts, he ordered that the Light Brigade go after them. Unencumbered by decent armour for either man or horse, the Light Brigade could cover ground quickly and thus disrupt the Russians fleeing with such heavy armaments.

So into the valley rode the Light Brigade; "the valley of Death" as Lord Tennyson's poem would later dub it. However, a miscommunication had taken them right into the heart of set-in Russian troops who had the British ringed on three sides of the valley. Chaos ensued. William Howard Russell from *The Times* saw "a flood of smoke and flame, through which hissed the deadly balls", while a French onlooker couldn't understand the logic of Raglan's order: "It is not war. It is madness."

Regardless of who was responsible for the misdirected attack, it terrified the Russians, who never again came out on horseback to face British cavalry.



TOP: **Major-General Colin Campbell led the 93rd Highland Regiment at Balaclava**
BOTTOM: **An 1896 painting shows British troopers crossing swords with their Russian opponents after making their way across "the valley of Death"**



THE BATTLE OF INKERMAN

5 NOVEMBER 1854

ANGLO-FRENCH VICTORY

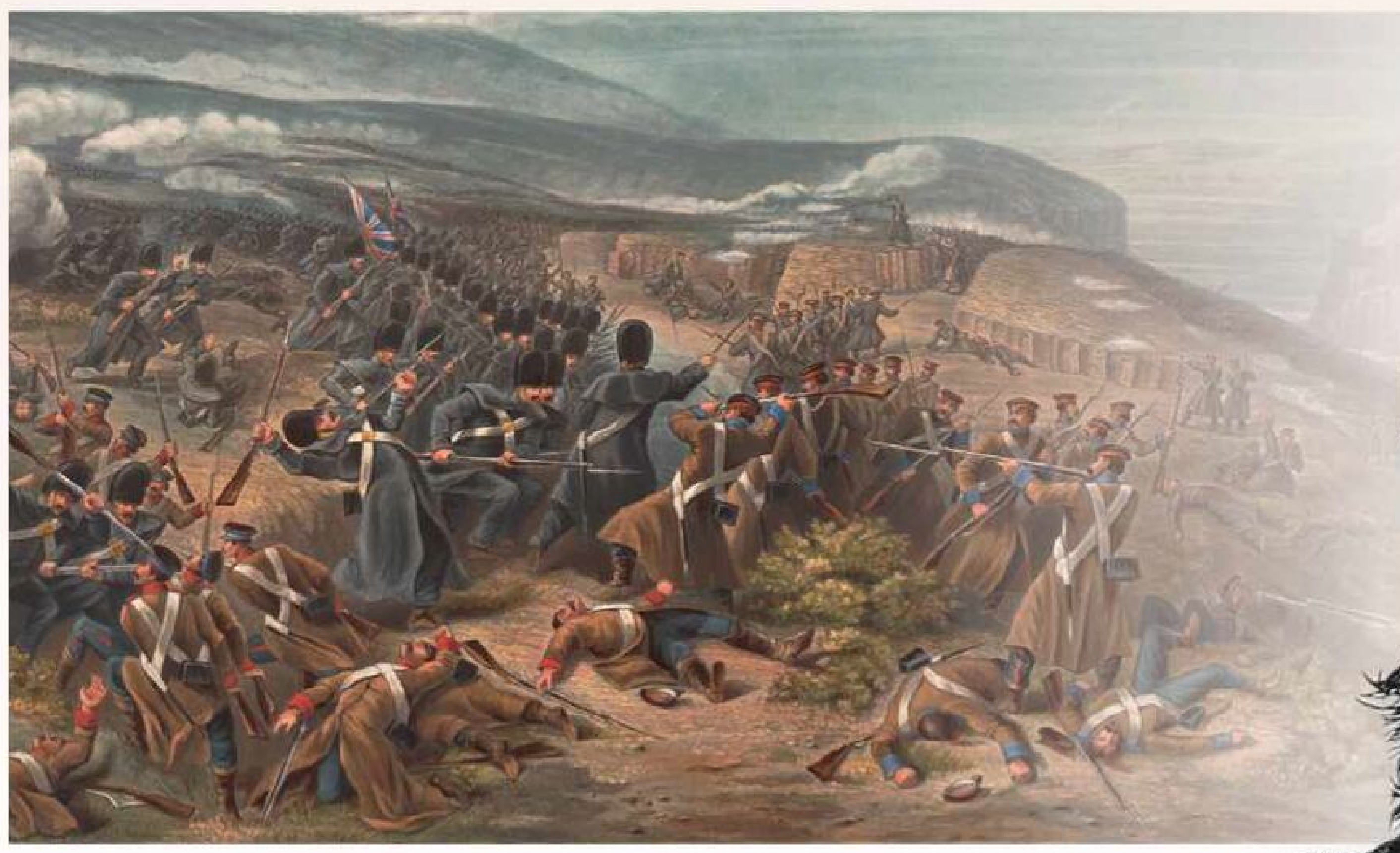
- 15,700 allies v 40,500 Russians
- Killed or wounded: 4,676 allies, 11,959 Russians

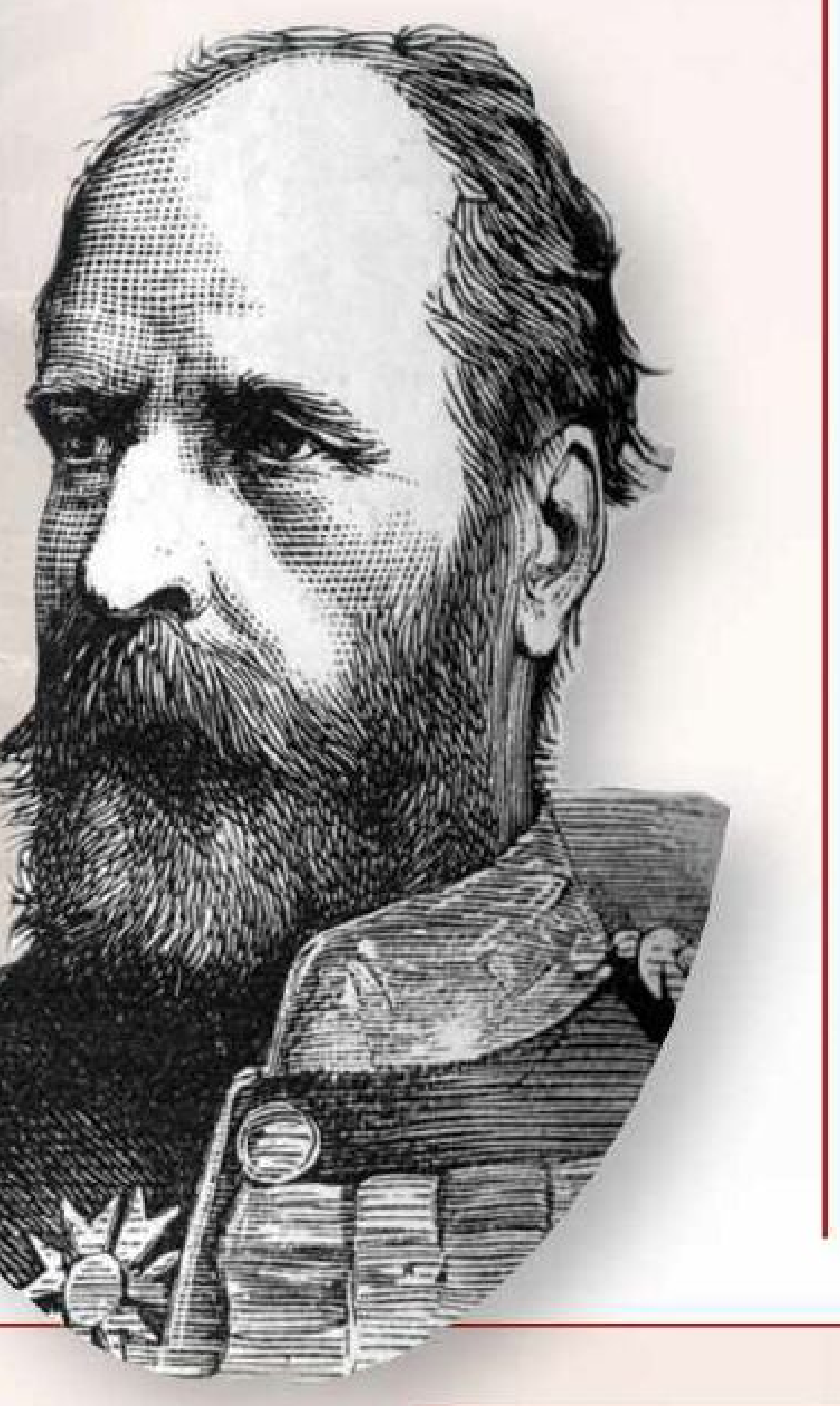
After the Charge of the Light Brigade had seen the deaths of courageous soldiers led by misguided generals, the battle of Inkerman was a much different affair. Largely due to the day's foggy conditions, the Anglo-French forces mainly fought without orders from on high. Largely thanks to their own initiative, an allied victory ensued.

Again attempting to penetrate the long, under-protected allied siege lines around Sevastopol, General Menshikov had ordered another attack, this time in the vicinity of Mount Inkerman. He had up to 42,000 men at his disposal, although the area's hilly geography made such numbers impractical. Still, the Russians greatly outnumbered the 2,700-strong 2nd Division, with British generals swiftly calling for reinforcements.

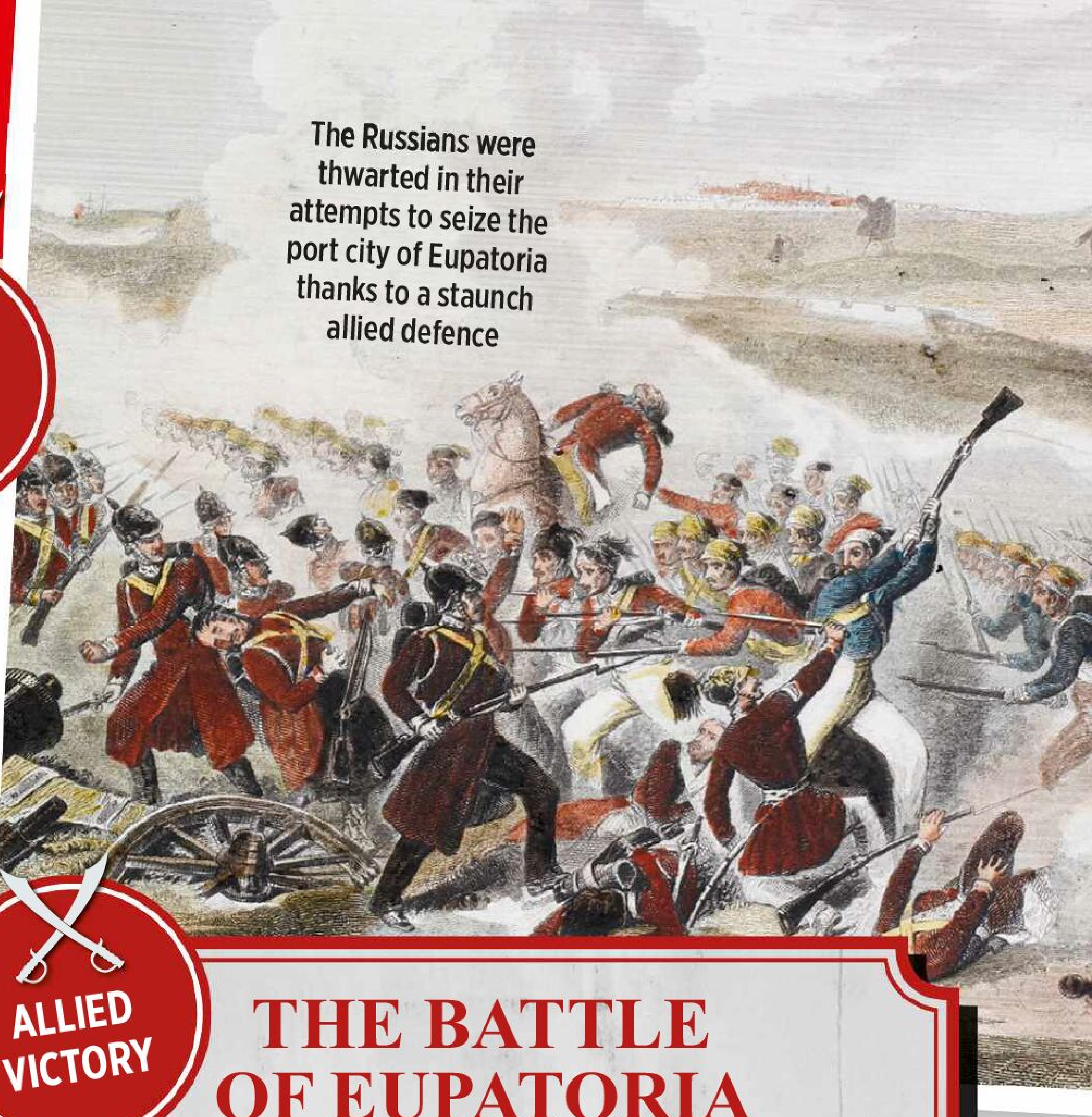
The splintered nature of the ensuing battle, caused by both weather conditions and terrain, meant that officers could only direct the fighting immediately before them. Captain Edward Hamley of the British 1st Division explained that "once engaged, every man was his own general". As such, Inkerman became known as 'The Soldiers' Battle'.

Bolstered by the arrival of two 18-pounder guns, which drove off the Russian field artillery, the allies successfully held their position. The Russians would never launch another land-based attack on the allies' siege lines again.





Difficult weather and terrain led the clash at Inkerman (*above*) to be dubbed 'The Soldiers' Battle', with Captain Edward Hamley (*right*) claiming "once engaged, every man was his own general"



The Russians were thwarted in their attempts to seize the port city of Eupatoria thanks to a staunch allied defence

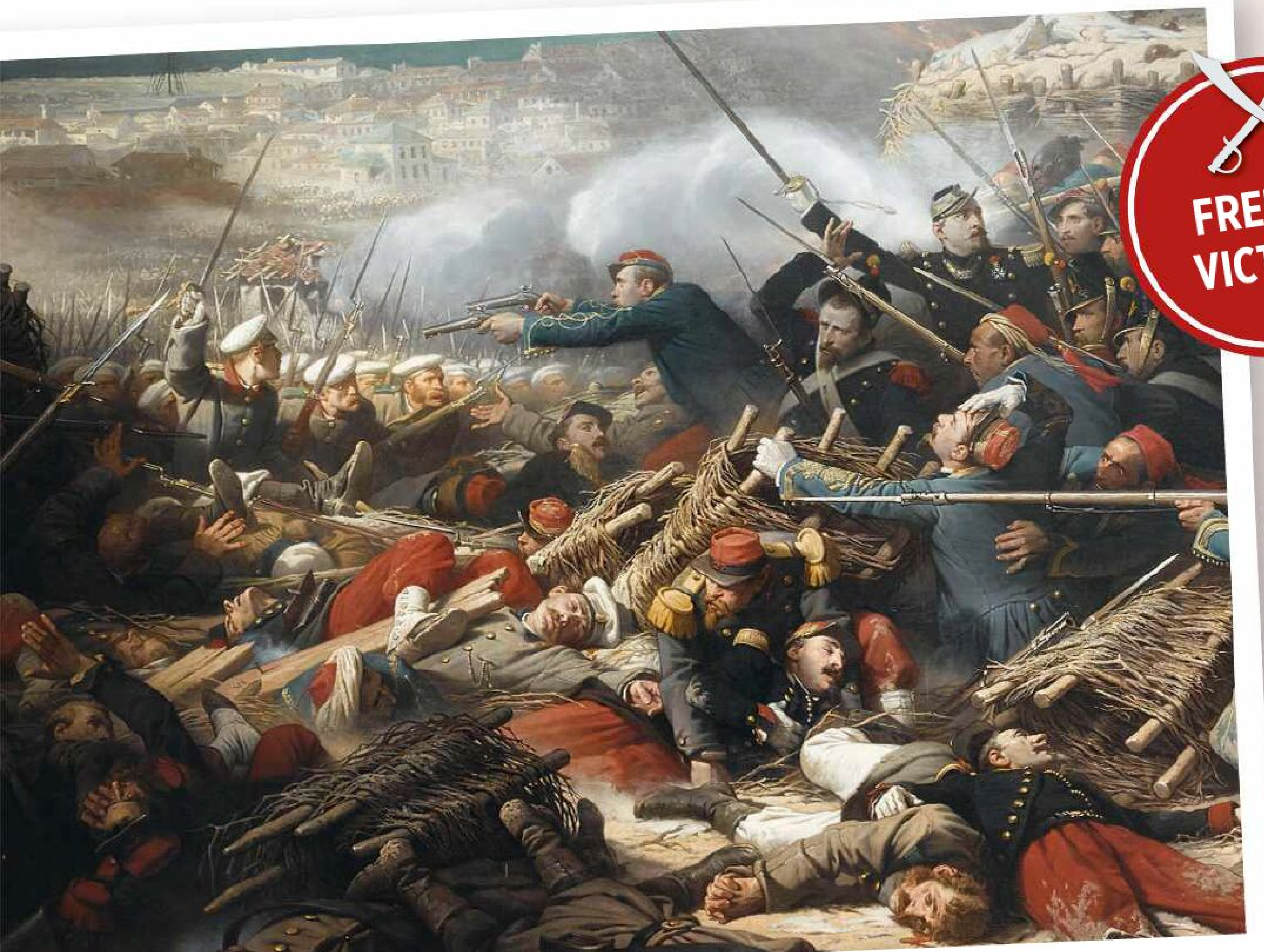
ALLIED VICTORY

THE BATTLE OF EUPATORIA

17 FEBRUARY 1855

- 32,000 allies (almost exclusively Ottomans) v 19,000 Russians
- Killed: 91 allies, 168 Russians

Sevastopol wasn't the only strategically crucial Crimean port. Fifty miles to the north, the Ottomans controlled the city of Eupatoria, an advanced base near the 'neck' of the peninsula that was well-placed to cut Russian supply lines. On 17 February 1855, the Russians attempted to capture the port, but soon encountered problems in penetrating its defences. Having advanced to the city walls, Russian leaders discovered that the protective water-filled ditches surrounding them were too deep to be able to launch an assault; they simply didn't offer a firm base from which the walls could be scaled. By 10 o'clock that morning, the Russians were already in retreat, a withdrawal hastened by Ottoman cavalry and infantry charging them.



An 1855 painting by Adolphe Yvon depicts the bloody combat that ensued as French troops tried to capture the Malakoff fort

FRENCH VICTORY

THE BATTLE OF MALAKOFF

8 SEPTEMBER 1854

- 70,500 French v 59,500 Russians
- Killed or wounded: 8,000 French, 13,000 Russians

The siege of Sevastopol had been prolonged thanks to Russia's defence of the city's harbour. On its south side, this protection was provided by the Malakoff-Kurgan ridge, on which stood a stone tower, the home of five heavy cannons. In September 1855, French forces tried to smash the siege's stalemate by attacking the Malakoff fort. After a day of intense combat, the fort fell and the French tricolour was raised up its flagpole.

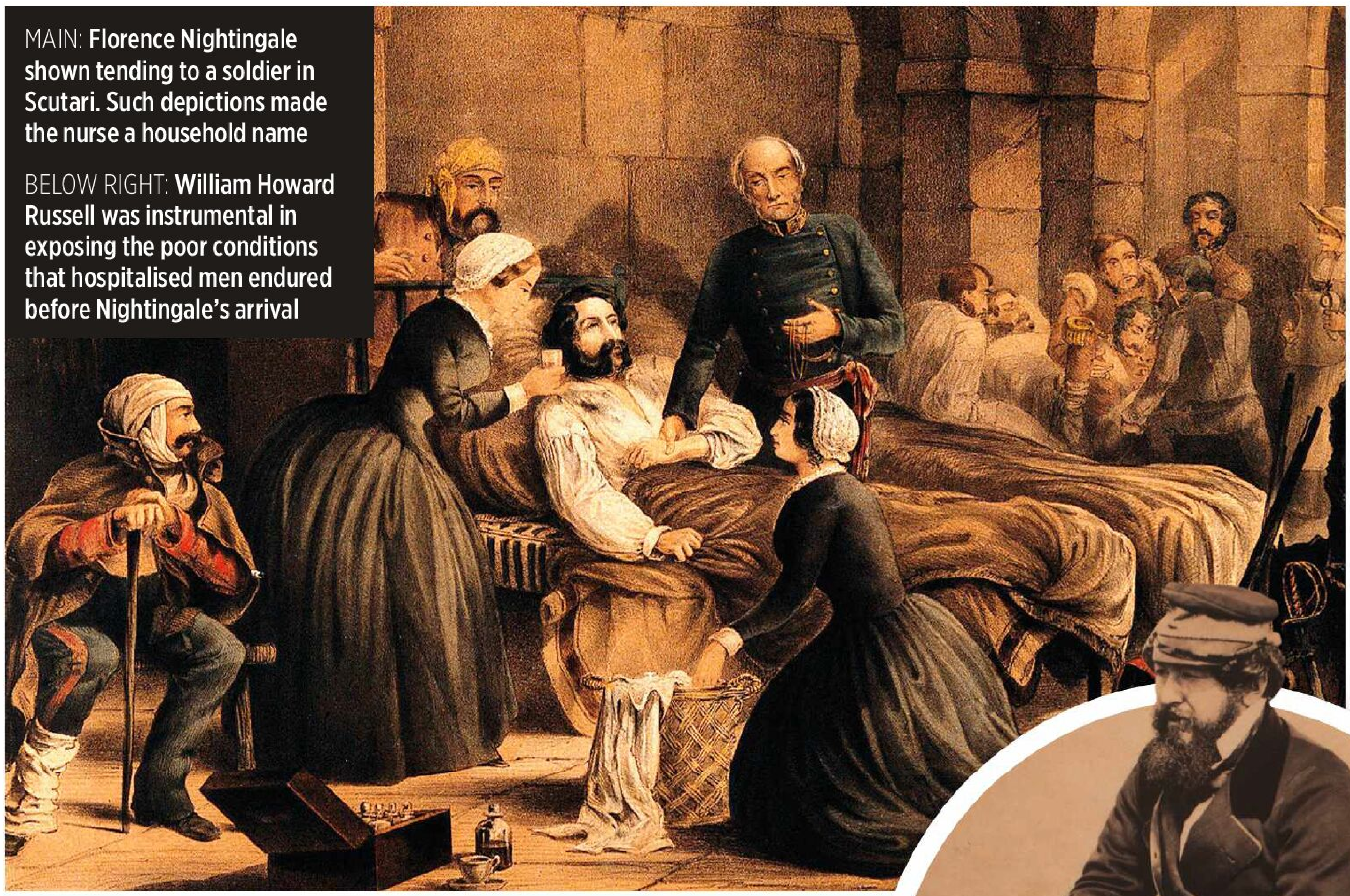
It had been a bloody encounter, but it was to be the war's last major battle. And it felt like the climax, too; no fewer than 19 generals on either side lost their lives, and the capture of the fort meant the capture of Sevastopol. But the clash did not decide the war. It would be factors away from the battlefield – such as bankruptcy, and pressure from Austria and Sweden – that would leave Russia unable to fight on. ⊙

WORDS: NIGE TASSELL

GETTY IMAGES X7, ALAMY X2

FLORENCE AND THE MILITARY MACHINE

Nursing and the treatment of wounded soldiers forever changed in the Crimean War, thanks in no small measure to an implacable Englishwoman named Florence Nightingale



MAIN: **Florence Nightingale shown tending to a soldier in Scutari. Such depictions made the nurse a household name**

BELOW RIGHT: **William Howard Russell was instrumental in exposing the poor conditions that hospitalised men endured before Nightingale's arrival**

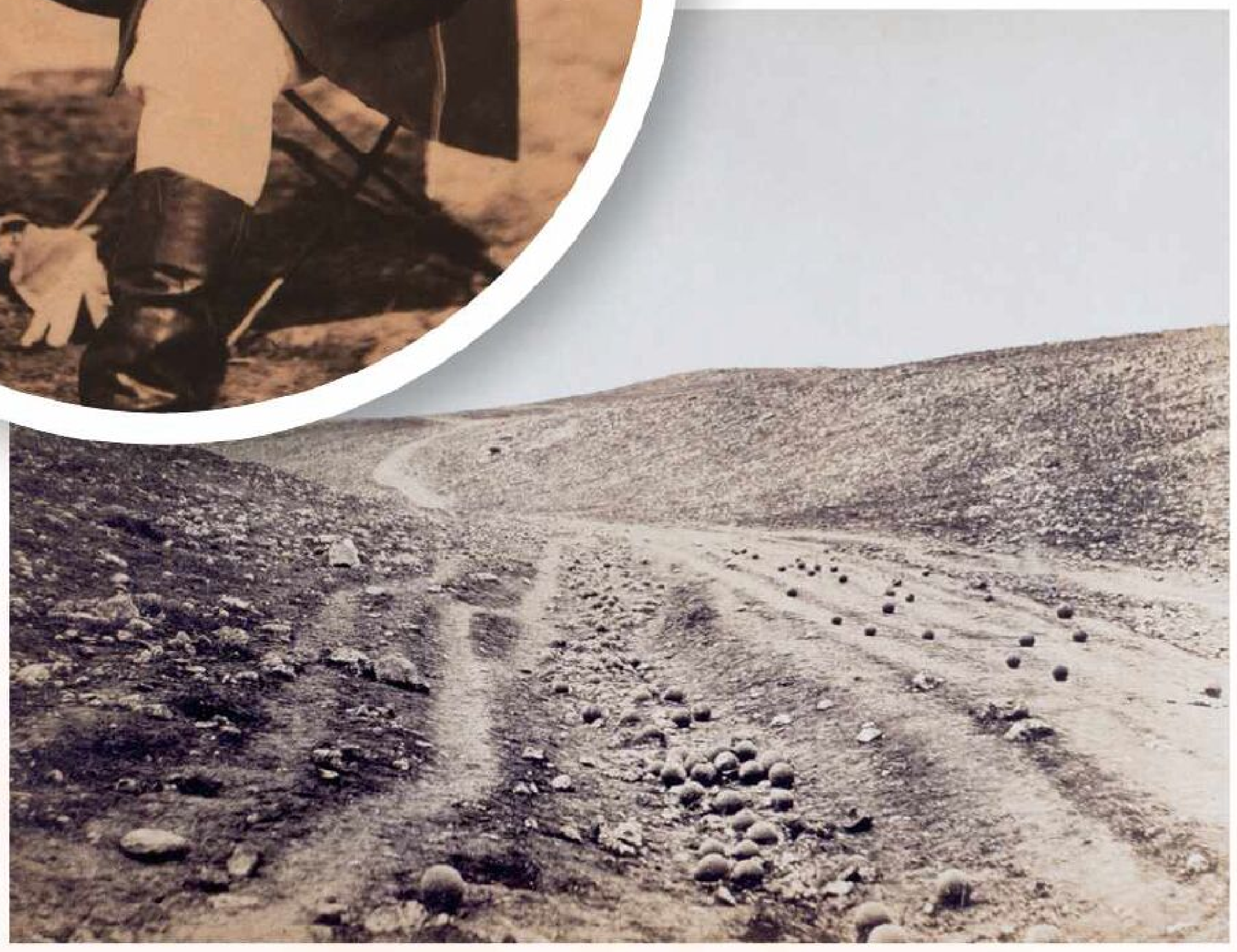
To see photographs taken during the Crimean War is to catch a glimpse of a world on the cusp of military modernity. Not that this is immediately obvious, however. The most famous image caught by pioneering British war photographer Roger Fenton, titled *Valley of the Shadow of Death*, is of nothing more than a stark landscape pebbled with cannonballs. And his pictures of the soldiers show men in uniforms often not so different from the Napoleonic Wars era.

Yet to understand how one of the war's undeniably most famous figures, Florence Nightingale, had such an enduring influence on the history of medicine – both in terms of trauma treatment and the wider profession – it is important first to understand that this was a conflict of new technologies. Russia's use of exploding shells helped end the era of wooden combat ships; the British built the Grand Crimean Central Railway to bring supplies and men to the front; and messages were sent home via electric telegraph so that news of what was happening could reach London in a matter of days.

FEVER AND DYSENTRY

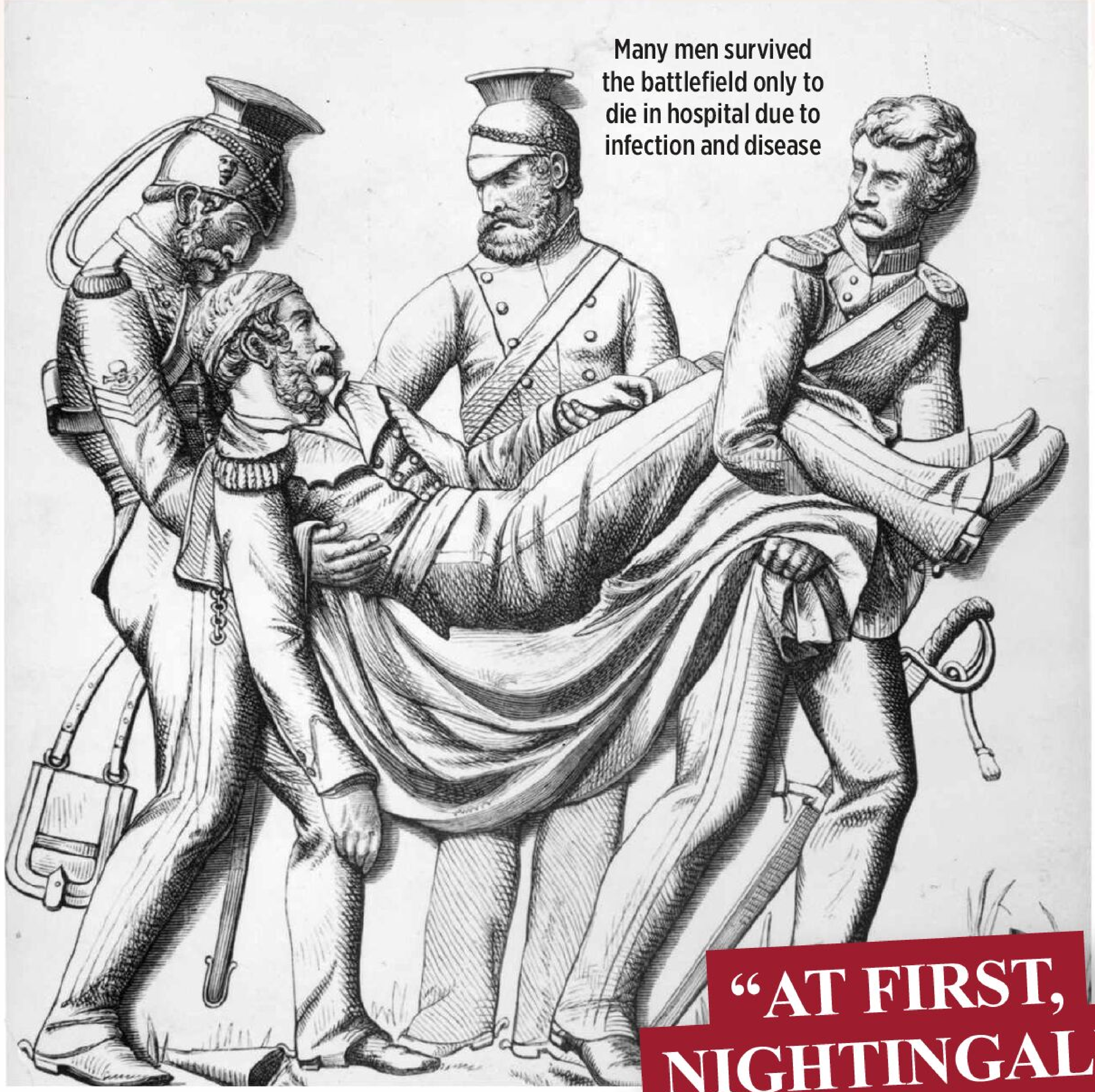
The despatches reaching Blighty, notably via a reporter for *The Times*, William Howard Russell, brought bad news. For despite the Crimean War concluding with Britain and its allies prevailing against Russia, it has rightly been remembered for military mismanagement. Nowhere was this more evident than in the treatment of the wounded. One army surgeon, Henry Walter Bellew, wrote in January 1855 that the patients at the hospital at Scutari (now Üsküdar in modern-day Turkey) were "swarming with vermin, huge lice crawling all about their persons and clothes. Many were grimed with mud, dirt, blood and gunpowder stains. Several were completely prostrated by fever and dysentery. The sight was a pitiable one and such as I had never before witnessed." He went on: "There has been somehow unaccountable neglect in the arrangements for this hospital."

Here at Scutari, and repeated at other hospitals, was a scene born of a combination of a lack of organisation and a lack of professionalism. Perhaps most damning of all, there was an underlying sense that those leading the allied forces, products of a rigid class-bound system, simply weren't looking after the welfare of their men facing conditions in which firepower was intensifying and terrible injuries were inevitable.

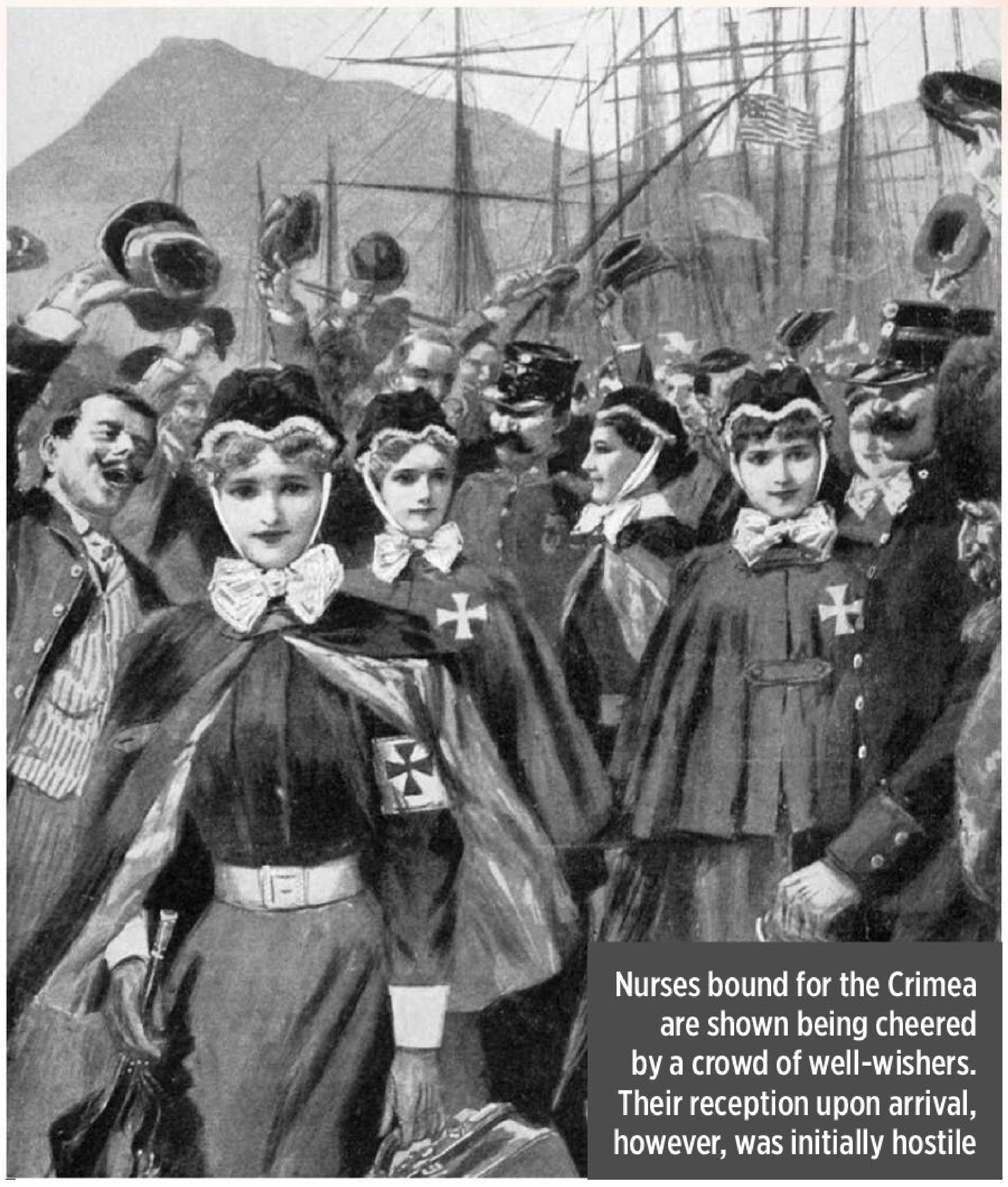


Roger Fenton's *Valley of the Shadow of Death* – an 1855 photograph depicting a ravine littered with cannonballs – demonstrates the dangers that soldiers faced

GETTY IMAGES X4, ALAMY X3

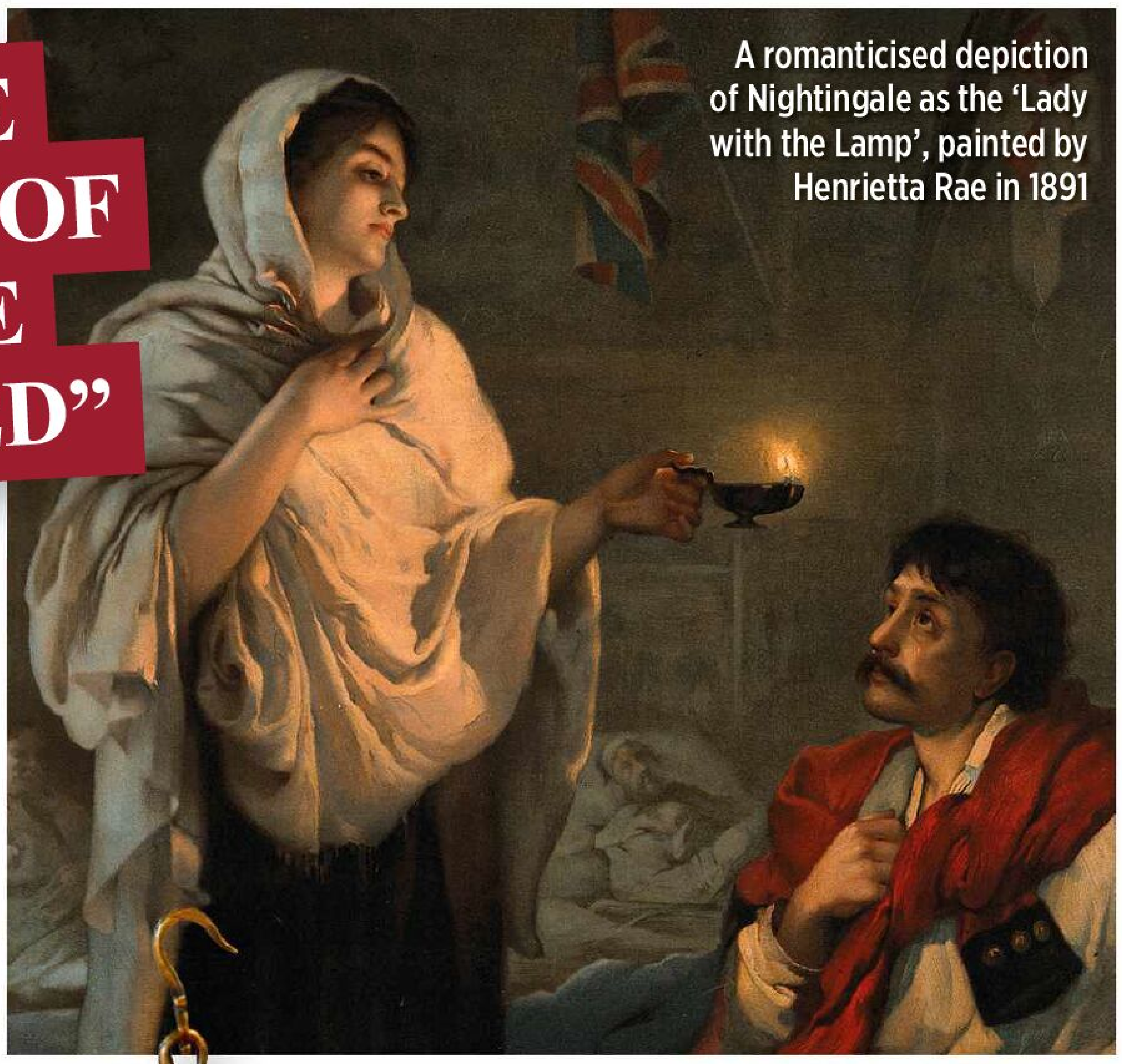


Many men survived the battlefield only to die in hospital due to infection and disease



Nurses bound for the Crimea are shown being cheered by a crowd of well-wishers. Their reception upon arrival, however, was initially hostile

> “AT FIRST, NIGHTINGALE AND HER TEAM OF NURSES WERE NOT WELCOMED”



A romanticised depiction of Nightingale as the ‘Lady with the Lamp’, painted by Henrietta Rae in 1891

If it seems surprising today that a women in her thirties in the midst of the Victorian era should become such an important figure in the care of wounded troops and the conditions of hospitals, that’s because Nightingale was a singular person. Born, in 1820, into a wealthy and liberal family, she was highly educated by her father, the Unitarian William Nightingale, and travelled extensively.

She was profoundly religious and experienced what she believed were “calls from God”. This sense of mission inspired her to take up nursing, a profession then associated with working-class women and not viewed as a respectable career choice. To get a sense of why her decision initially caused her family distress, think of the boozy, dissolute and dangerously incompetent nurse character, Mrs Gamp, in Charles Dickens’ novel *Martin Chuzzlewit*.

WARTIME CLASHES

Regardless, Nightingale embarked on her training and, in August 1853, became superintendent at the Institute for the Care of Sick Gentlewomen in Distressed Circumstances in London’s Upper Harley Street. She held that position for over a year, and improved conditions there, until reports of Scutari made their way back to Britain. Her friend, the reforming politician Sidney Herbert, asked her to lead a team of nurses out to Scutari. Nightingale’s wartime service, which would ensure her legacy, was about to begin.

At first, she and her team were not welcomed. Nightingale clashed with Sir John Hall, the chief British medical officer in the Crimea, who wrote of her that she displayed “an ambitious struggling after power inimical to the true interests of the medical department”. He then angrily dismissed her as “a petticoat imperieuse in the Medical imperio!” Here was a culture clash between a man rooted in the rambunctiousness of the Duke of Wellington’s army of nearly half a century earlier, and an implacable English lady looking to modernise.

Although she would probably not have viewed her situation in such terms, Nightingale would prevail over Hall, certainly in PR terms, by getting on with the work she thought needed doing. “She simply ignored his authority,” noted Richard Aspin, head of the archives and manuscripts at the Wellcome Trust when the medical charity acquired Hall’s letters in 2007. “She would no more have dreamed of consulting him about her nurses than she would have sought the opinion of a husband, if she ever had one, about hiring a parlour maid.”

A lantern used by Nightingale during her overnight ‘rounds’

SHINING A LIGHT

Thus was the legend of the ‘Lady with the Lamp’ born as Nightingale nightly did her rounds carrying a *fanous* lantern (rather than the open candle in a holder seen most often in romanticised illustrations of her). More importantly, the conditions at Scutari and other military hospitals began to improve, due in no small part to measures Nightingale introduced, her prioritising of cleanliness, and because she was so adept at highlighting

ABOVE: **Nightingale (*centre*) pictured in 1886 with students of the nursing school she founded in London shortly after the conflict**

LEFT: **Mary Seacole was another pivotal figure during the Crimean War, using her own money to set up the British Hotel for recovering soldiers**

◀ deficiencies in the treatments she saw without worrying about who she might offend in doing so.

The significance of her contribution is a subject of ongoing debate, but issues around overcrowding, sewerage, hygiene standards, food, and ventilation at hospitals were all addressed during Nightingale's service in the war. As to her reputation, it has sometimes suffered as a result of how demanding she was – Nightingale certainly was not always an easy person to get along with.

In this context, it's fascinating how she has come to be compared to Mary Seacole, a British-Jamaican nurse and businesswoman who set up the British Hotel near Balaclava as "a mess-table and comfortable quarters for sick and convalescent officers". Of Seacole, Nightingale waspishly noted, "Anyone who employs Mrs Seacole will introduce much kindness – also much drunkenness and improper conduct," yet it seems their only known meeting passed off cordially.

In the summer of 1856, Nightingale returned to Britain, and, to her own surprise, she received a hero's welcome. Her experiences, notably in May 1855 when she was struck down by what was called 'Crimean fever', appear to have had a lasting impact on her health. It is possible she suffered from a debilitating form of brucellosis, associated with eating unpasteurised milk and cheeses.

Yet, in a sense, Nightingale was only beginning her service to health care. Having played a vital role in making the British Army better able to treat its men, she used her fame – and money raised by her supporters for the Nightingale Fund – to train the next generation of nurses. In turn, graduates from the Nightingale Training School at St Thomas' Hospital set up more schools around the world. Her book, *Notes on Nursing: What It Is and What It Is Not* (1859) offered practical advice for those caring for others, while her statistical analysis proved enormously influential (*see box, right*).

Most of all, Nightingale's work established nursing as a profession. In 1914, the mechanised mayhem of World War I brought hitherto unimaginable levels of carnage, but this time it was accepted and expected that nurses would serve, and among them would be blue bloods from Europe's royal families doing what was seen as their duty.

Carrying her lamp around the Scutari wards, Nightingale lit the way for this to happen. ⊙

WORDS: JONATHAN WRIGHT

GETTY IMAGES X1, ALAMY X2

LADY OF THE STATS

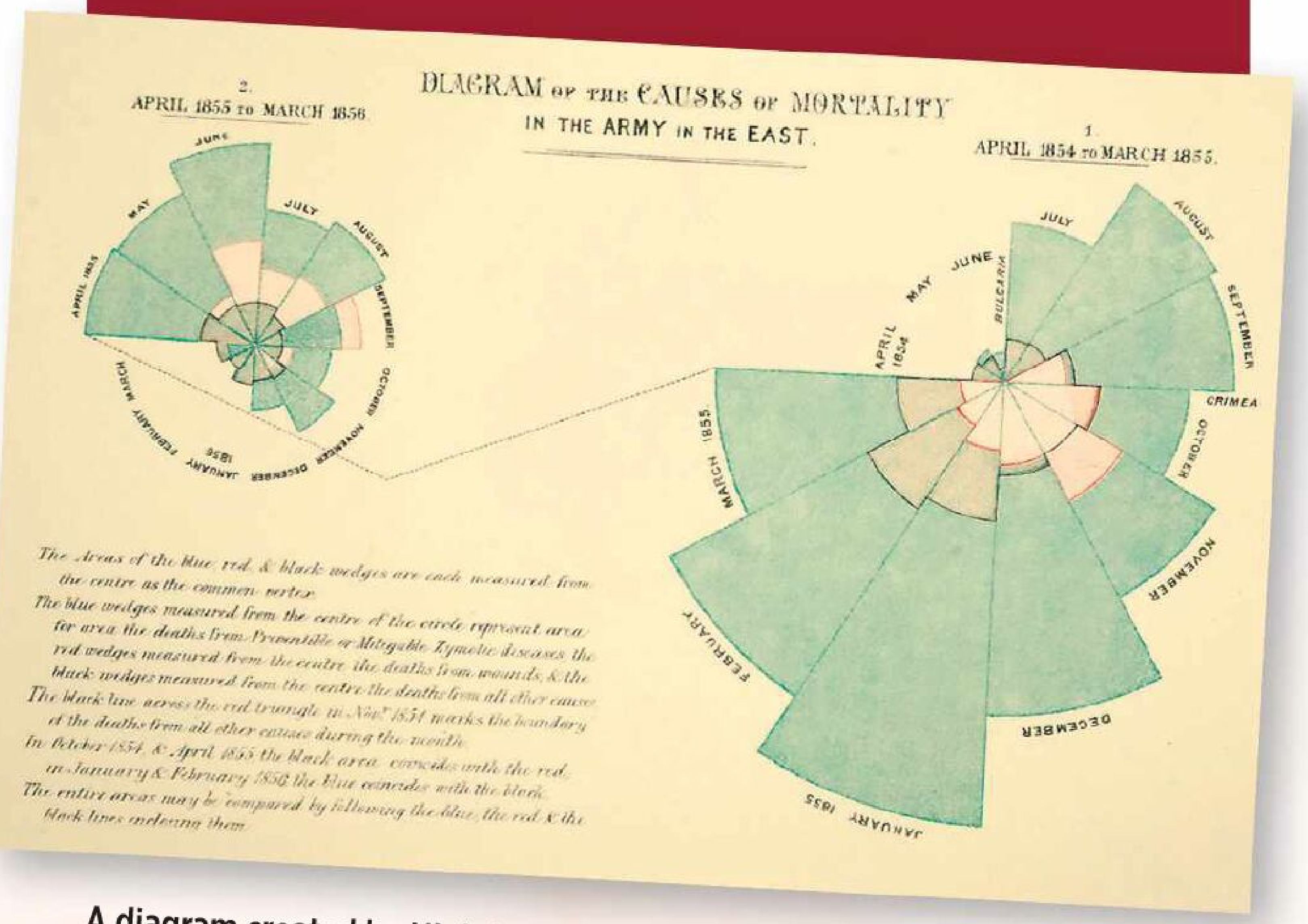
Florence Nightingale revolutionised nursing, and had the numbers to prove it

Among the subjects that William Nightingale taught his daughter Florence was mathematics, and it is clear that she was a gifted and willing student since, in her career as a nurse, she pioneered the use of statistics to analyse health issues and outcomes. During her service in the Crimean War, she gathered information on her patients: the number of soldiers being killed and injured, or who were diseased. Nightingale did not do this work herself: in an approach that is now commonplace, she ran a team that gathered statistical data.

How to convey her findings would be a major concern for her. After returning to Britain, she knew the widespread anger over mismanagement of the war would inevitably fade as time passed from the guns falling silent. Nightingale needed to bring the data alive, and so be able to convince parliamentarians, government officials and army officers of the need for change.

One method she used was to illustrate her findings through graphs, which may seem an obvious choice today in the age of infographics, but was a revolutionary approach in the 1850s. Nightingale created a 'polar area diagram', a form of pie chart that compared the causes of soldiers' deaths between April 1854 and March 1855 with those of the following 12 months. At a glance, this technique showed how her reforms and improvements in medical care at the front helped see a steep rise in survival rates, while highlighting just how many more troops died from preventable diseases rather than battlefield wounds.

Nightingale publicised her statistical work by collaborating with social theorist Harriet Martineau, who penned *England and Her Soldiers*, a proto-popular science volume to make her findings accessible to the widest-possible readership. The polar area diagram was printed on a fold-out page at the front. Yet it seems that there was still some way to go before Nightingale's ideas were accepted: the book was deemed to be unsuitable for the library shelves of army barracks.



A diagram created by Nightingale to show the causes of mortality in the British Army; the potent illustration would help inspire change in care of the wounded

THE CHANGING FACES OF WARFARE

Thanks to a host of 19th-century innovations, the Crimean conflict became the first truly 'modern' war

WEAPONRY

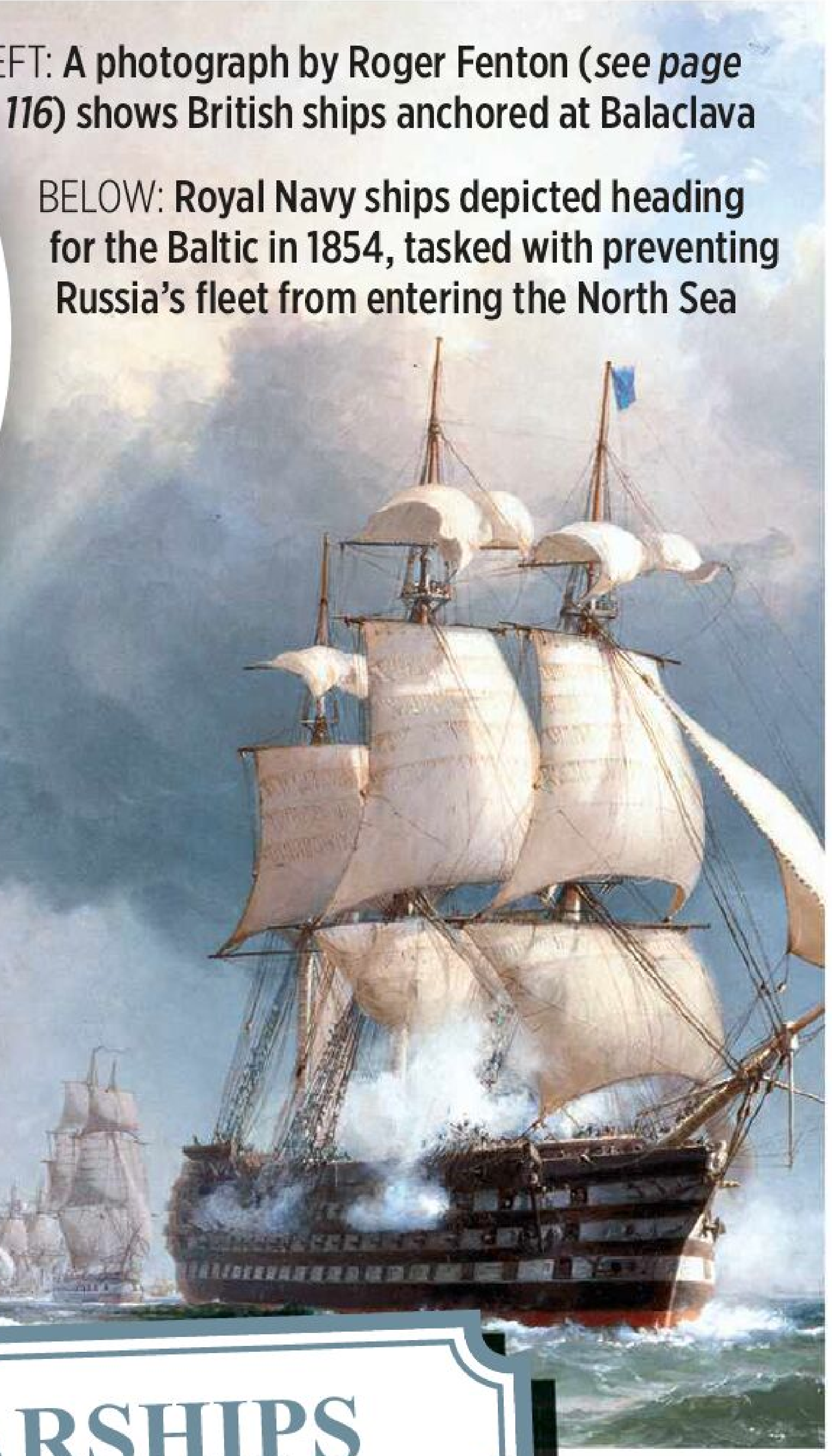
When the Crimean War broke out in 1853, fewer than 40 years had passed since the Napoleonic Wars. Yet the methods and technology used by both sides were a world apart from those in that earlier conflict, which had pockmarked Europe in the opening decades of the 19th century. Many new weapons and technologies were deployed for the first time, hence Crimea later being defined by many observers as the 'first modern war'.

One major advance was in rifle technology. The Enfield Pattern 1853 rifle-musket had been swiftly approved by the British government and put into mass production. In combination with the Minié musket ball, a hollow-based bullet that expanded when fired, Enfields put the allies at a distinct advantage over the Russians when it came to accuracy and inflicting casualties. The navies of both sides, however, adopted shell-firing guns – a technology that the Russians had utilised during the early naval battles against the Ottomans before the British and French joined proceedings.

The war was also the first to see widespread use of mines, both on land and at sea. The Russian navy particularly favoured their deployment, setting more than 1,500 sea mines in the Gulf of Finland to deter any sorties by the Anglo-French fleets towards St Petersburg. The rules of engagement – or, at least, the methods of engagement – were now changed forever.

ABOVE: Historical reenactors dressed as members of Britain's Rifle Brigade, armed with the innovative Enfield Pattern 1853

RIGHT: Another group of Crimean War reenactors. Both the Russians and the allies made use of advances in artillery technology



LEFT: A photograph by Roger Fenton (*see page 116*) shows British ships anchored at Balaclava

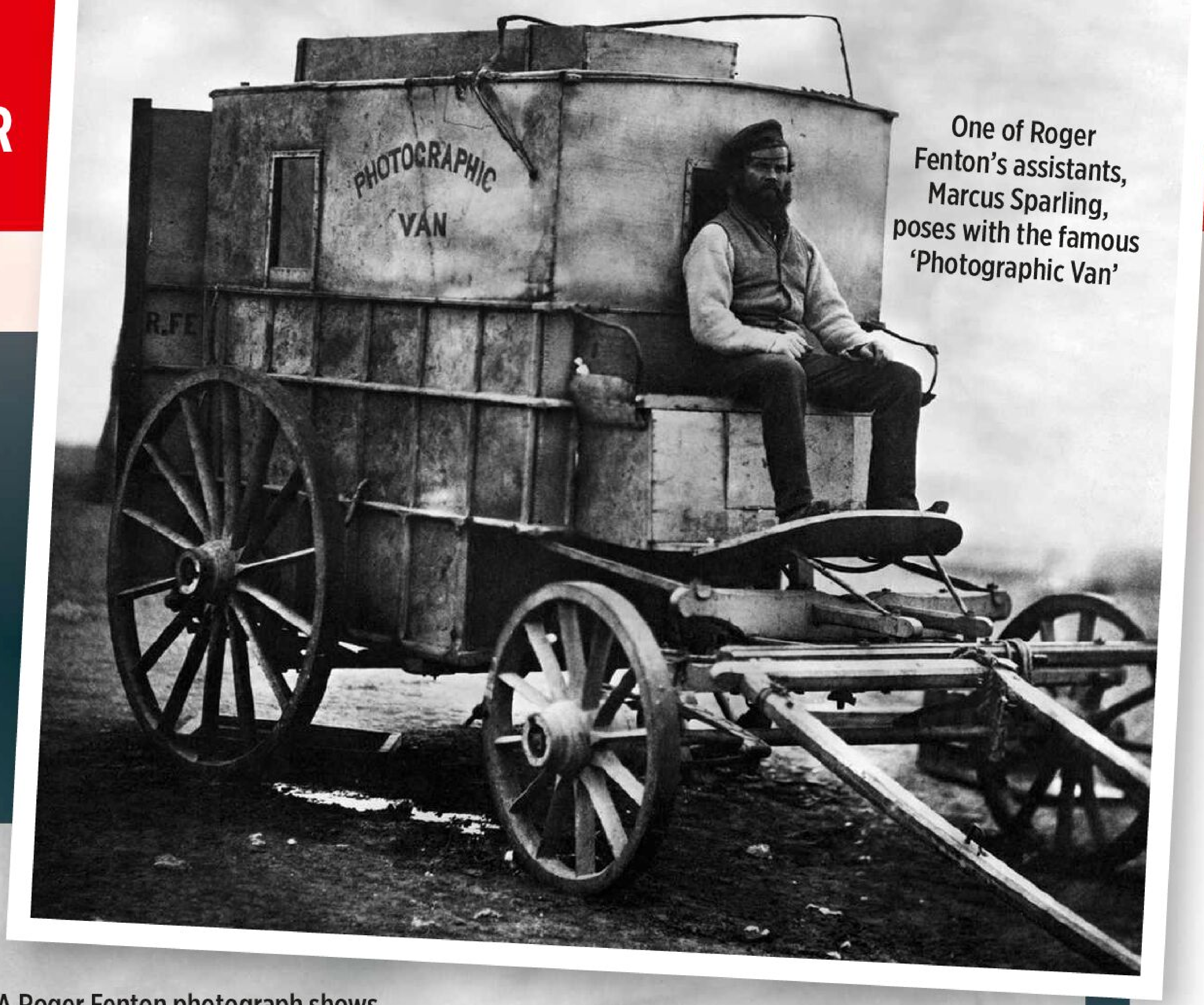
BELOW: Royal Navy ships depicted heading for the Baltic in 1854, tasked with preventing Russia's fleet from entering the North Sea

WARSHIPS

The Crimean War is undeniably the point in military history at which the irresistibility of steam power in naval battles is universally acknowledged. Although the fleets of both sides were a mixture of sailing ships and steam-powered vessels, the greater number of modern ships built by the allies put them in control of the waters of the Black Sea. With the Russians only in possession of seven steam frigates, the rest of its more antiquated fleet were easily outmanoeuvred and outflanked by the allies' speedier and more agile steam-driven vessels.

Along with the heralding of widespread naval warfare under steam, the battles on the Black Sea accelerated the notion of armoured ships. The French were in the vanguard of their design and, after joining with Britain to enter the war, they shared plans for ironclad warships with the Royal Navy. After testing, the British government decided to build five of their own. France's armoured ships were dispatched to the Crimea the following year, where their role in destroying the Russian fortress at Kinburn on 17 October 1855 prompted all navies to embark on building such vessels.

GETTY IMAGES X2, ALAMY X2



One of Roger Fenton's assistants, Marcus Sparling, poses with the famous 'Photographic Van'

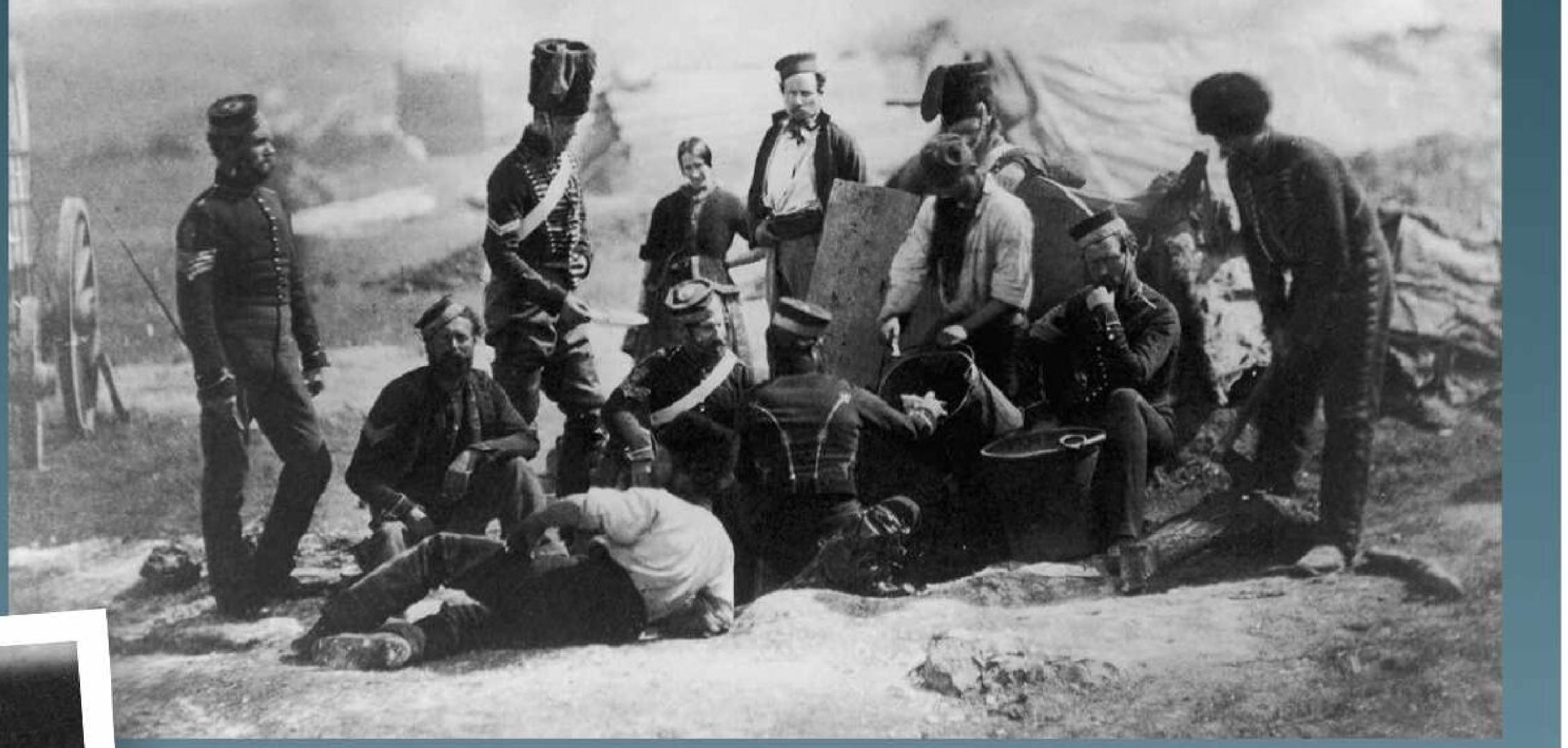
PHOTOGRAPHY

Accompanying the news reports updating readers about events in the Crimea were photographs from the war. While artists were seconded to the region by publications such as *The Illustrated London News*, the development of photography made the Crimean War, as historian Yakup Bektas has declared, "the most illustrated war to date and helped turn it into a visual spectacle".

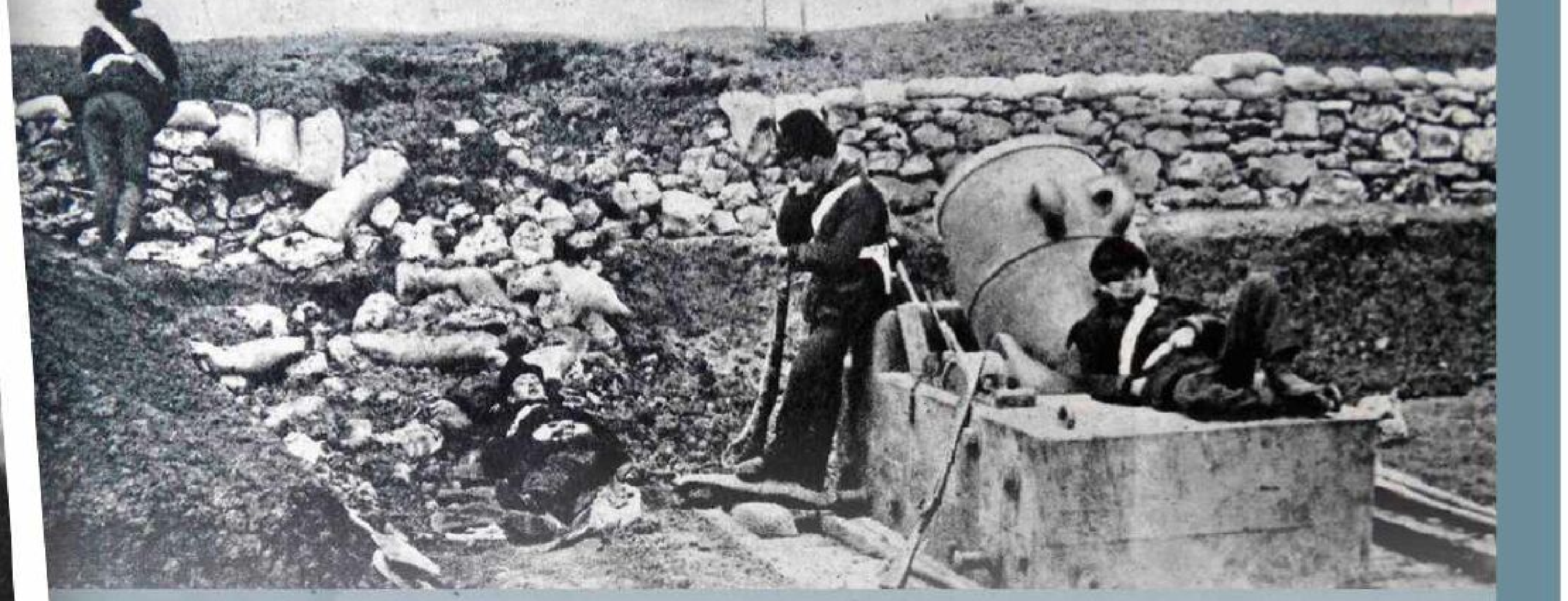
When exhibited, the photography from the battlefields had an impact that the sketches did not possess. Although the images that appeared in the press were actually engravings based on the photographs (the technology to reproduce them in newspapers had not yet been created), readers were given a greater sense of the reality of the conflict – even if the images being published were a matter for subjective decision-making, and such editorial choices were susceptible to the requirements of propaganda.

Arguably the most notable photographer in the Crimea was Roger Fenton, who travelled around with his two assistants in a horse-drawn 'Photographic Van'. Despite his reputation, the Lancastrian seemed to sidestep capturing scenes of brutality and distress. Perhaps with one eye on posterity (and the other on self-preservation), he preferred to spend his time as a portrait photographer, usually with the upper echelons of the British military as his focus. Fenton was also accused of manipulating and even staging some of his non-portrait work. Nonetheless, whether completely honest, Fenton and others helped deliver a sense of the human element of war.

A Roger Fenton photograph shows soldiers of the 8th Hussars preparing food at a British Army camp

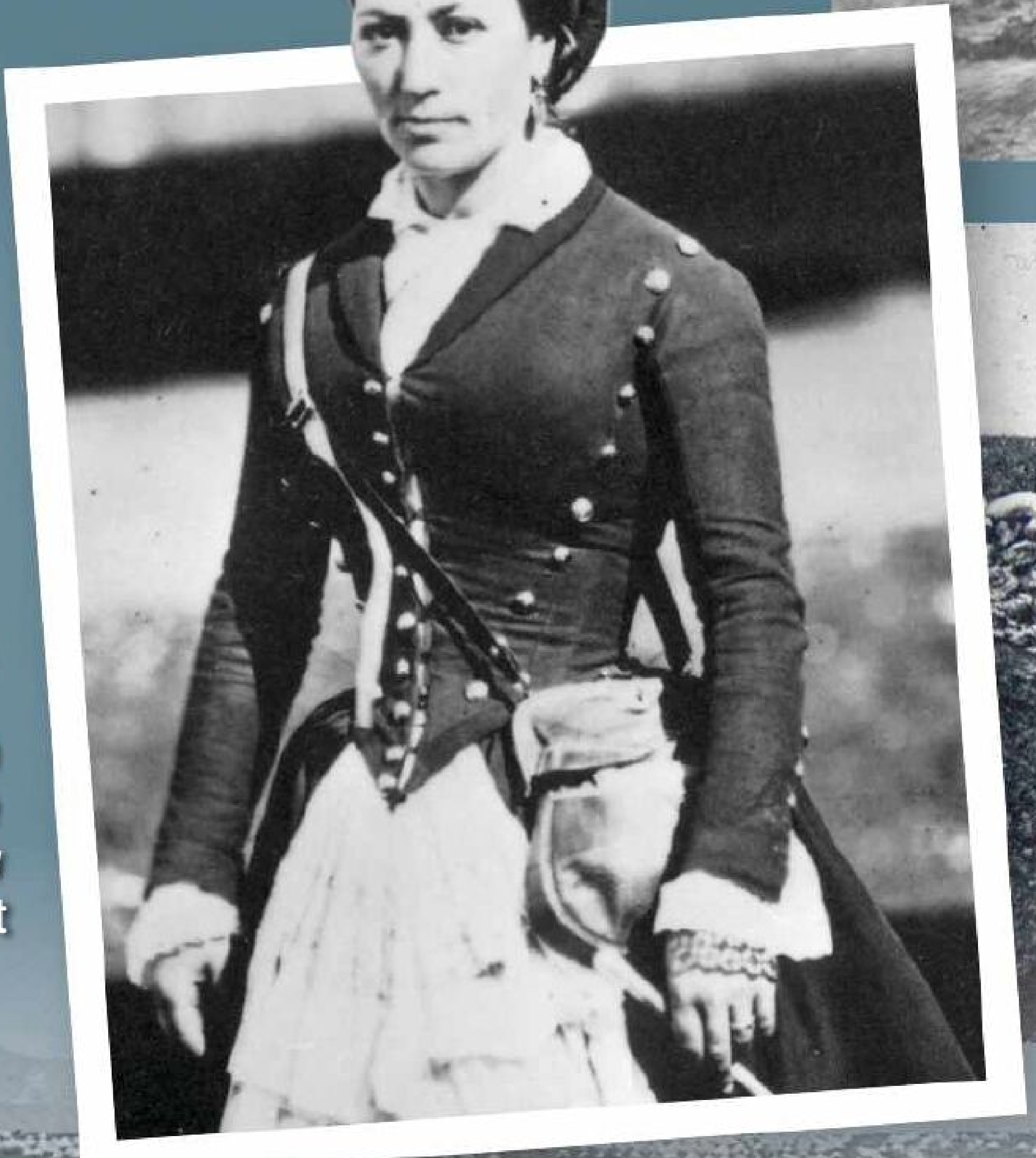


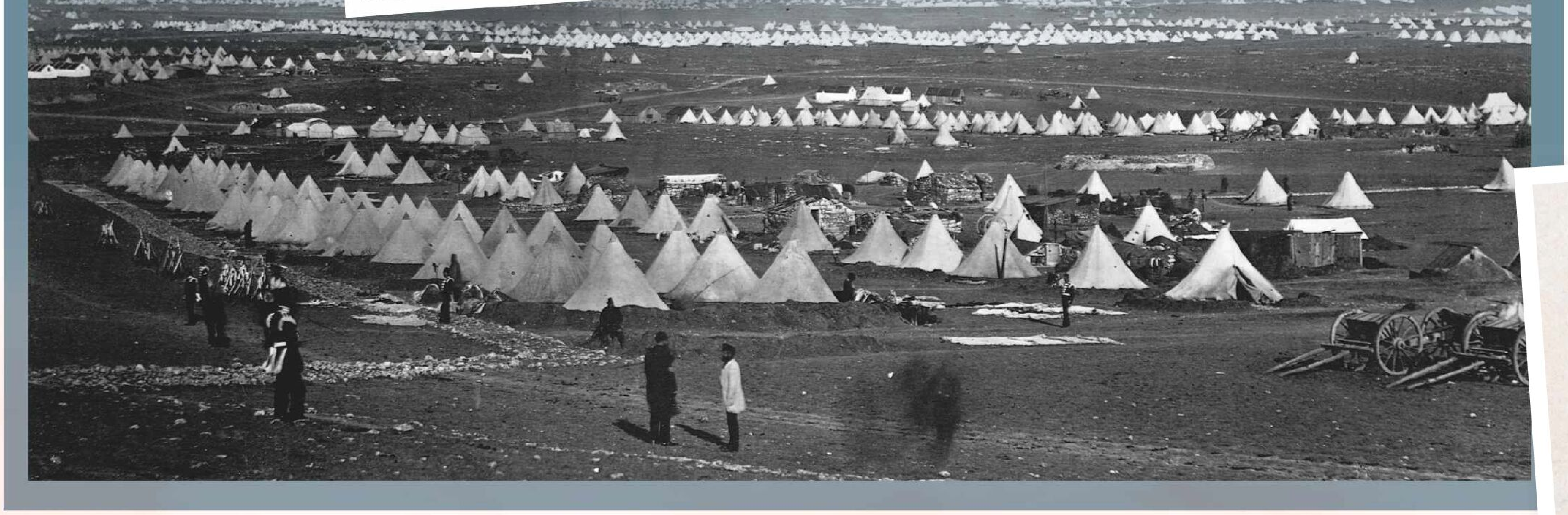
Some of Fenton's images captured scenes from the front line. Here, soldiers posted at a mortar battery pause for a moment of rest



RIGHT: **A Fenton image shows a French *cantinière* – a woman attached to an army regiment who would furnish troops with water and wine**

BELOW: **A peaceful British camp. Photographs like Fenton's did not always show the brutality of the conflict**





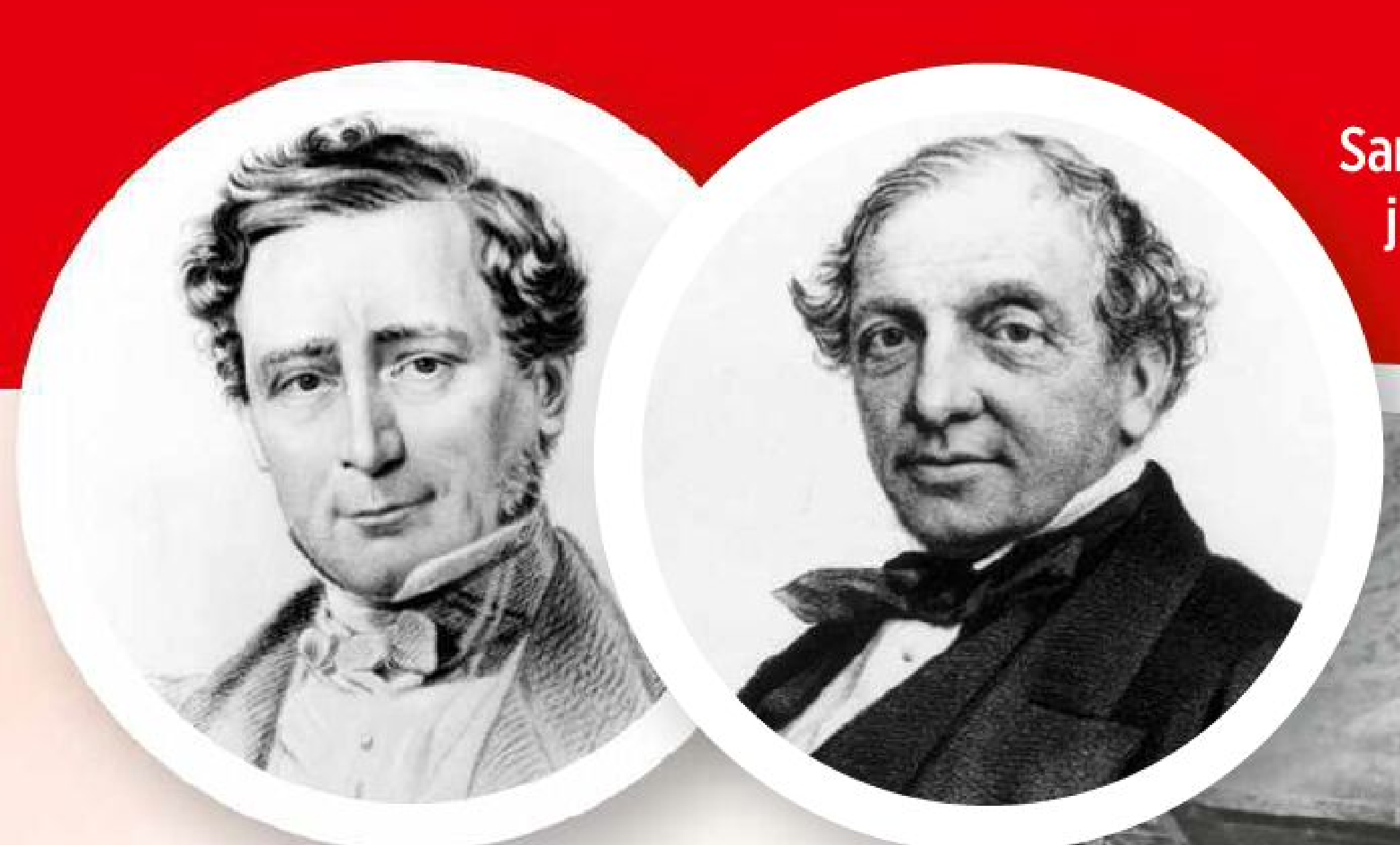
GETTY IMAGES X11

RAILWAYS

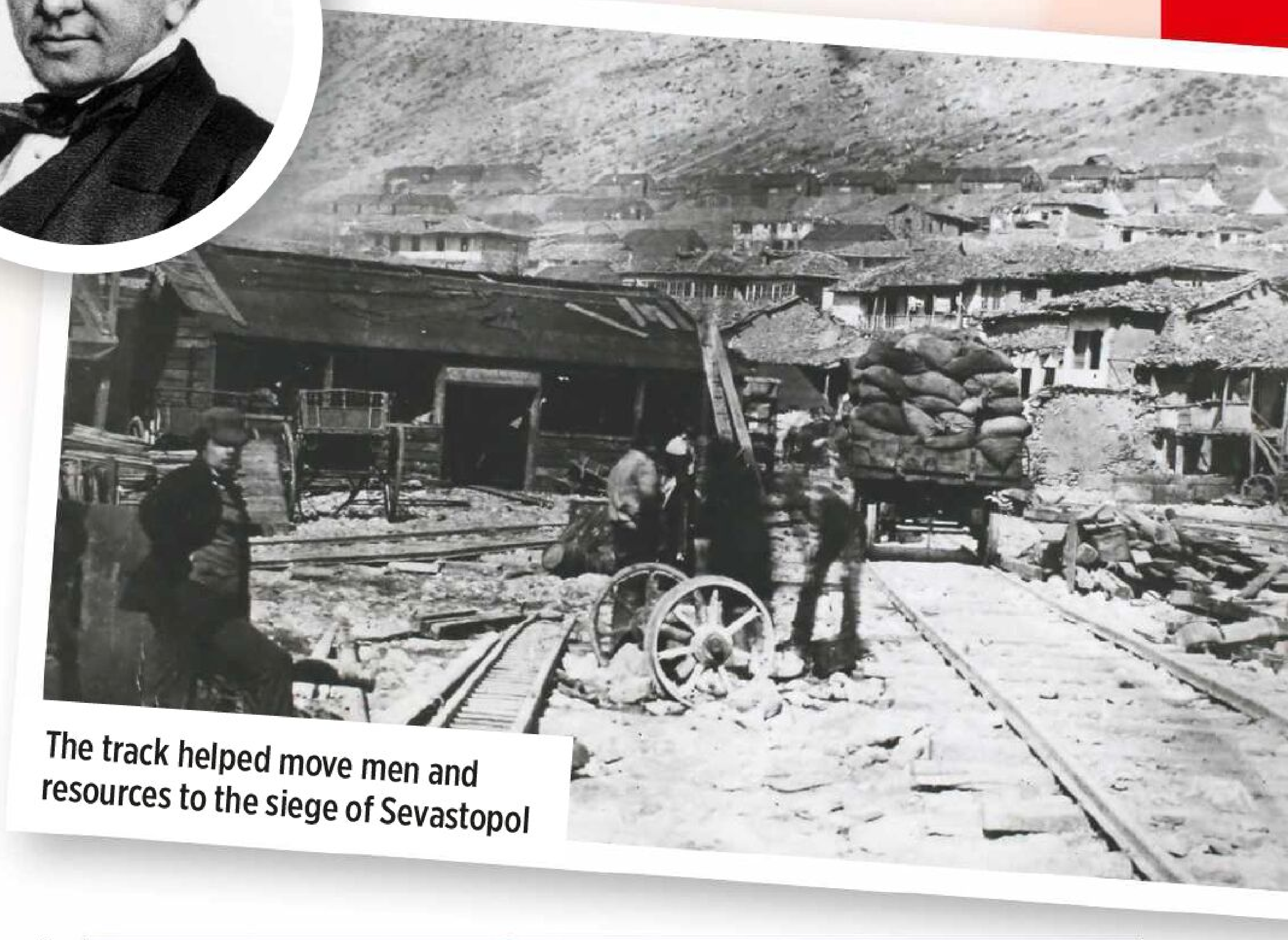
The lengthy siege of Sevastopol presented the British military with a logistical headache. When its men and equipment arrived in the Crimea by ship, they disembarked at the port of Balaclava. Although the trenches surrounding Sevastopol were only 10 miles away, transporting the cargo – both human and mechanical – was exceedingly tricky. Not only were the weather conditions frequently atrocious, but the pitted and rough uphill terrain made for progress that was slow at best, and perilous at worst.

Help was on its way, though. Back in Britain, a pair of entrepreneurs, Samuel Morton Peto and Edward Betts, were among the pre-eminent railway builders of the Victorian age. Having read about the conditions in the Crimea in the eyewitness accounts of *The Times* correspondent William Howard Russell, Peto and Betts went into partnership with another railway man, Thomas Brassey, to propose the construction of a simple and effective line between Balaclava and the trenches above Sevastopol. This was no money-making scheme, incidentally, since the trio charged the British government only at cost price.

Progress was speedy, too: after the trains and track parts shipped in December 1854, the line was finished and fully functional within four months. Enjoying a rather high-falutin name, the Grand Crimean Central Railway contributed greatly to the ending of the siege; able to withstand the heavy rains to deliver arms, supplies and personnel to the trenches while returning sick and injured troops to Balaclava.



Samuel Morton Peto (*far left*) and his partner Edward Betts joined forces with Thomas Brassey (*left*) to build a short, but vital, railway line in the Crimea



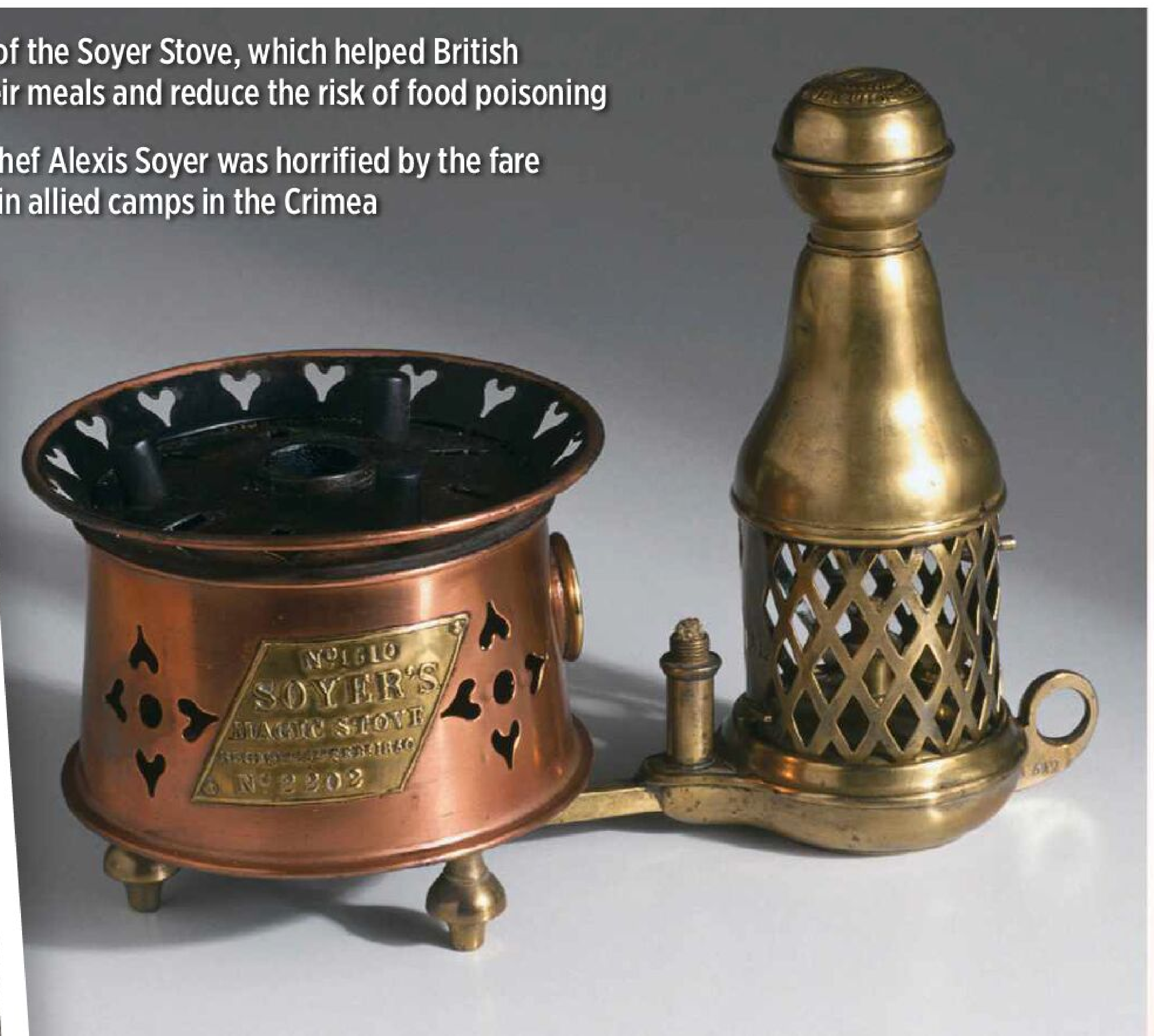
The track helped move men and resources to the siege of Sevastopol

PORTABLE STOVES

As if the fighting of the Crimean War hadn't claimed enough casualties, the death toll was being added to by allied troops falling gravely ill (particularly those in the British Army). One key reason was food poisoning. Soldiers were being catered for by those with little or no experience in cooking – let alone cooking en masse – and, accordingly, a frequently served dish of the day was undercooked meat.

Popularly regarded as the best chef in Britain, the Frenchman Alexis Soyer visited the troops in the Crimea and was shocked by the fare being served up. By then, he had already been developing a stove upon which food could be cooked properly whatever the location. In order to meet the needs of the British soldiers, the so-called Soyer Stove swiftly went into production. The celebrated chef also trained the cooks of each regiment how to provide solid, and more importantly non-dangerous, sustenance to their men.

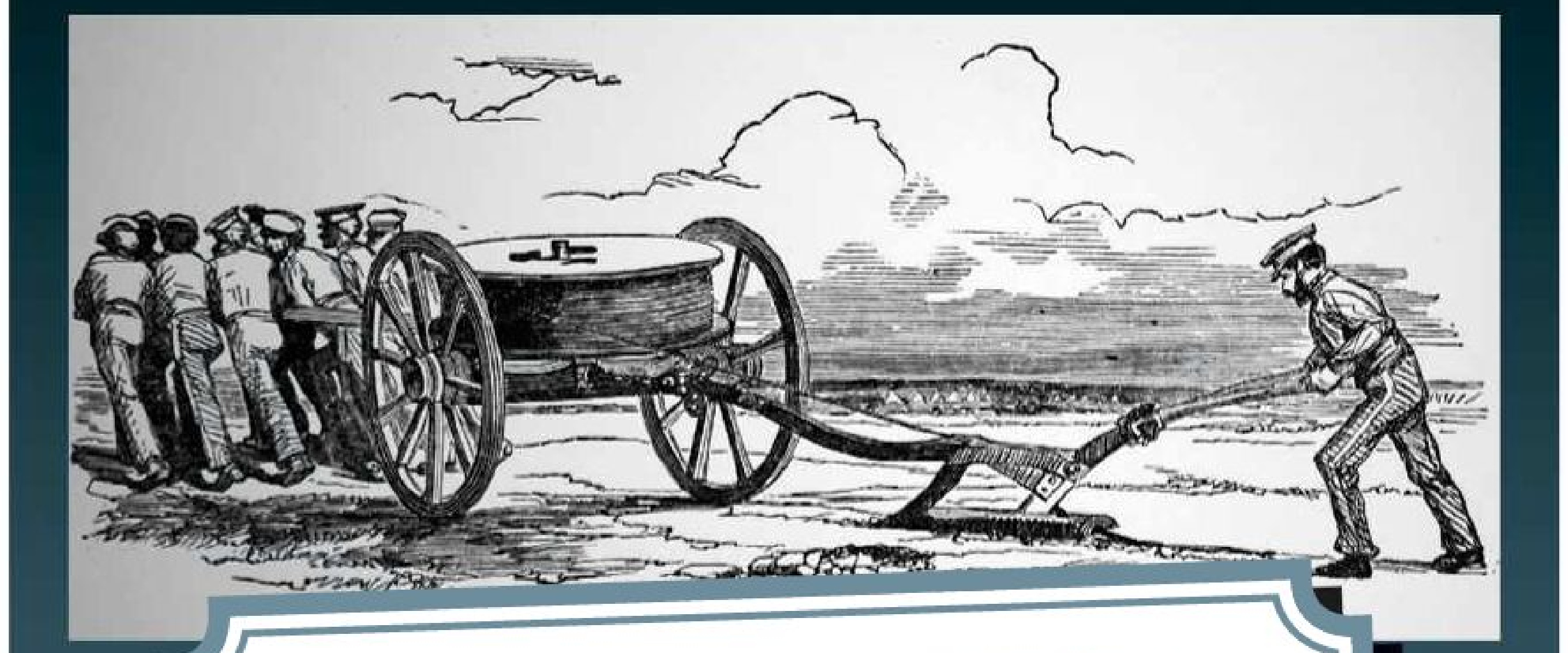
Cases of food poisoning fell as a result and a version of the Soyer Stove would go on to be used by the British Army as recently as the Falklands War in 1982. As such, Soyer saved many lives. "War is the evil genius of a time," the Frenchman wrote in his memoir of his Crimean experience, *A Culinary Campaign* (1857), "but good food for all is a daily and paramount necessity."



MAIN: A version of the Soyer Stove, which helped British soldiers cook their meals and reduce the risk of food poisoning

BELOW: French chef Alexis Soyer was horrified by the fare being served up in allied camps in the Crimea

Laying telegraph cables revolutionised wartime communication by greatly speeding up the delivery of messages



TELEGRAPHY

The Crimean War saw the adoption of another new technology that modernised the processes and procedures of both warfare and the reporting of warfare: telegraphy. It revolutionised communication, whether between the front lines and governments, or between war correspondents and newspaper readers.

A crucial player in this revolution was RS Newall & Company, arguably the leaders in the manufacture and laying of submarine cables. In late 1854, the company was commissioned by the British government to connect, by electric telegraph, Balaclava with the port city of Varna on the western shore of the Black Sea (in modern-day Bulgaria). Two months later, the French and British agreed to connect their respective governments with their troops by constructing a new telegraph line between Varna and Bucharest, the latter being already connected to Paris and London.

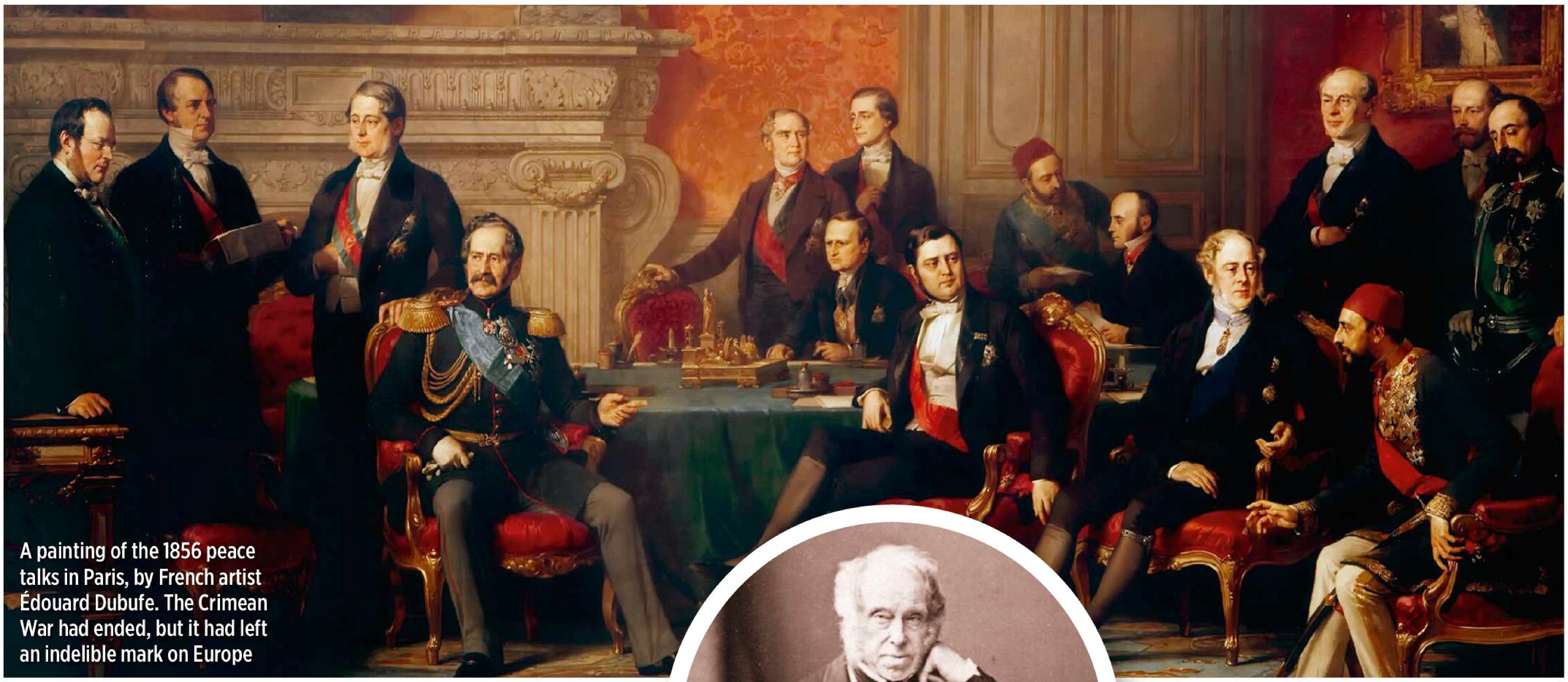
Until then, communications from the sharp end of the war had taken up to five days before reaching the telegraph station in Bucharest, starting with a two-day steamer voyage from Balaclava to Varna that was then followed by a three-day horse ride. With a telegraph line now stretching from the front line right to Whitehall, communication was near-instant.

The British public, eager to learn of the latest developments from the Crimea, enjoyed this immediacy as they were now able to read the dispatches of Fleet Street's war correspondents soon after engagements had occurred. This exciting technological advance did carry a downside, though. Russian agents in London could update their superiors in St Petersburg through these fresh reports in the public press. ⊙

WORDS: NIGE TASSELL

PEACE AND PICKING UP THE PIECES

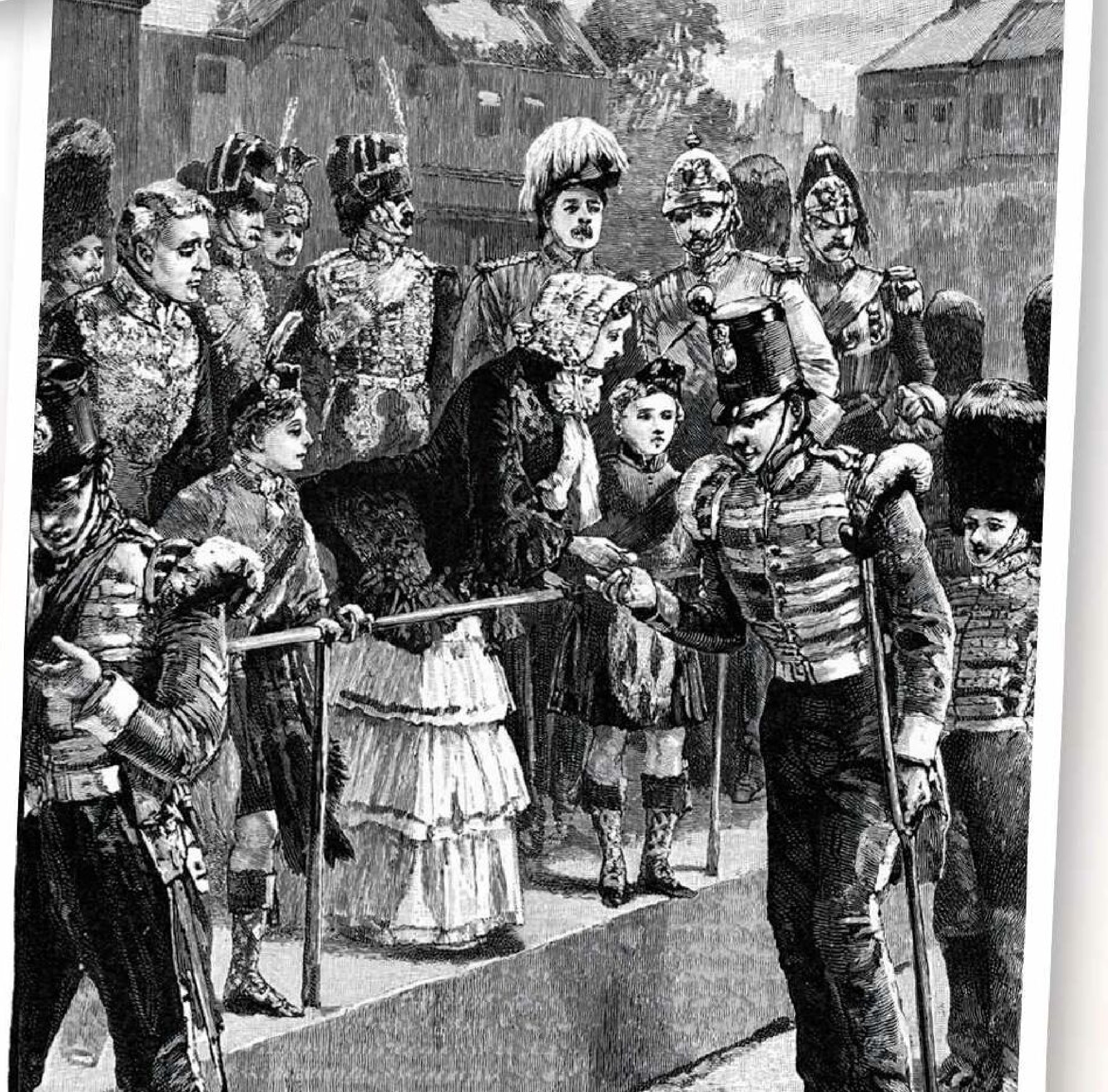
Professor Andrew Lambert explains how the Crimean War came to an end, and the effect it had on Europe and beyond



A painting of the 1856 peace talks in Paris, by French artist Édouard Dubufe. The Crimean War had ended, but it had left an indelible mark on Europe

LEFT: **Lord Palmerston, who became British prime minister in 1855, wanted to continue the war, but agreed to the French calls for peace**

BELOW: **An illustration depicts Queen Victoria awarding medals to veterans of the conflict**



After a siege that lasted nearly 11 months, the fate of Sevastopol was settled when the Royal Navy occupied the Sea of Azov, cutting Russian supply lines to the Crimea. Without food, ammunition and fodder for the cavalry, Russia could no longer hold the fortress. It fell on 9 September 1855 after a brilliant French assault. This triumph was enough for Napoleon III: having restored military glory, he wanted to end the conflict and focus on redrawing the map of western Europe and expanding the borders of the French empire. Also, among his subjects, the war had become deeply unpopular as the human cost had mounted.

As for the British, they concentrated on destroying Sevastopol dockyard to ensure that Russia would not command the Black Sea for a generation. With Sevastopol lost, and Russia facing bankruptcy, domestic unrest and further defeats, the new tsar Alexander II was forced to admit defeat. Russia could not resist a sophisticated maritime-economic offensive that left the coast open to further attacks, including a widely publicised plan for the Royal Navy to escalate the war by bombarding St Petersburg the following spring. The pressure on Russia increased when Sweden joined the allied coalition in November 1855, and Austria threatened to follow. By early 1856, the tsar was ready to talk.

COMING TO TERMS

With the resulting Treaty of Paris, Russia recognised the political and territorial integrity of the Ottoman empire; demilitarised the Black Sea; gave up its claims to guarantee the civil rights of Christians in Ottoman areas; and opened the Danube River for international trade. Britain then demanded the demilitarisation of the Åland Islands, which enabled the Royal Navy to dominate the Baltic. The peace, however, came just as industrial mobilisation was

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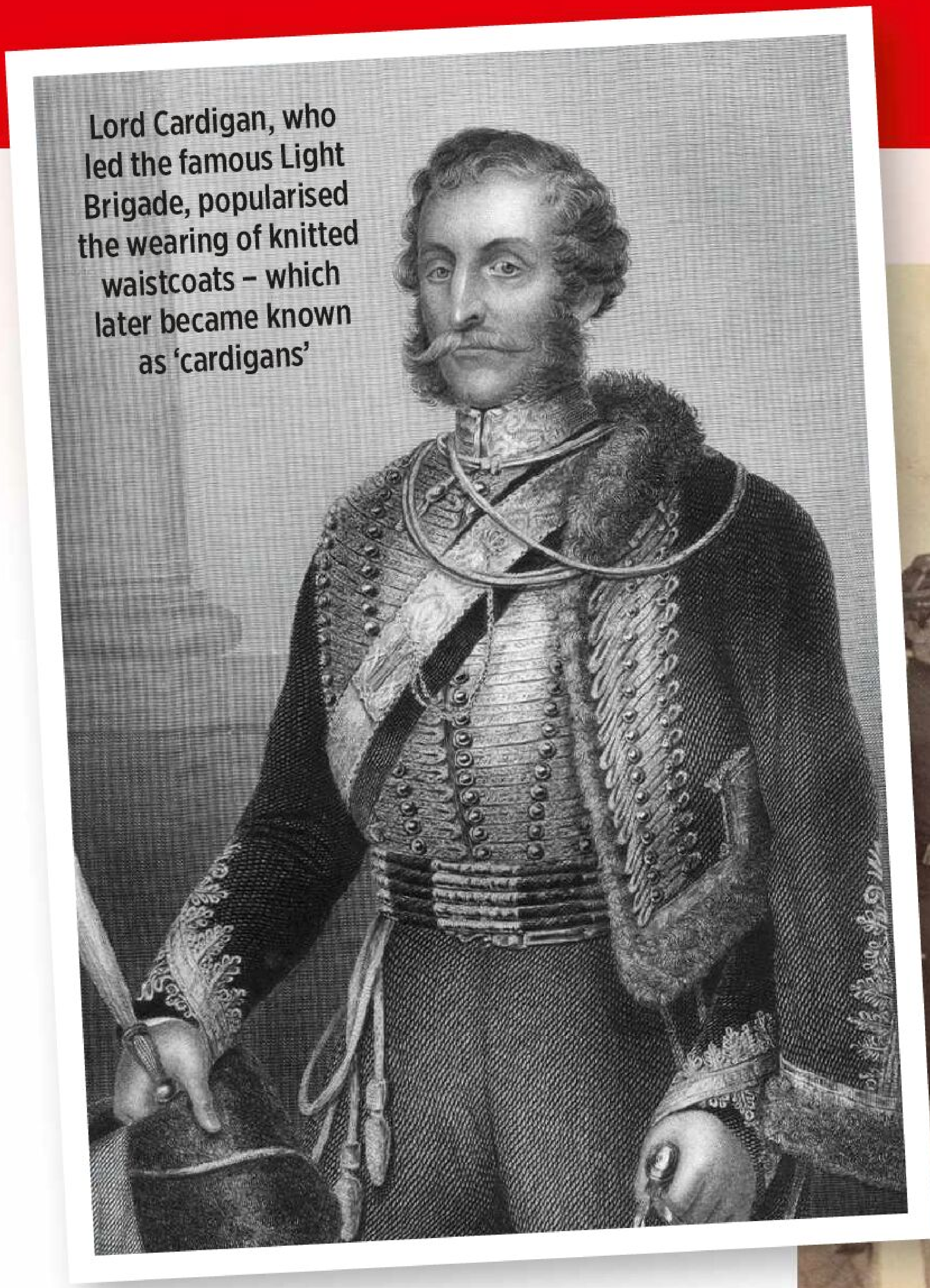
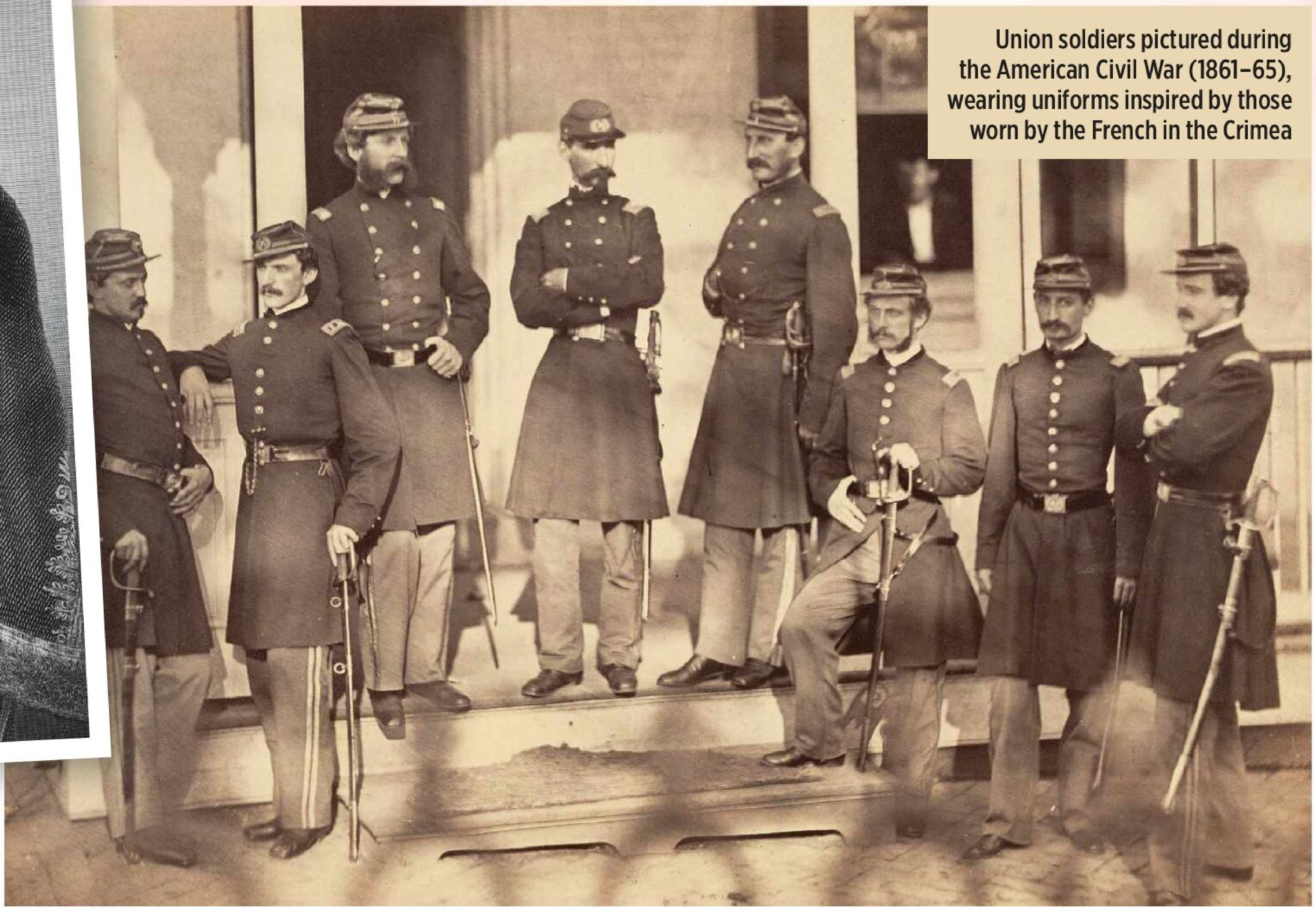


Lord Cardigan, who led the famous Light Brigade, popularised the wearing of knitted waistcoats – which later became known as 'cardigans'



Union soldiers pictured during the American Civil War (1861–65), wearing uniforms inspired by those worn by the French in the Crimea

transforming British strategic power. Prime Minister Lord Palmerston was left to regret lost opportunities to push Russia out of recently conquered regions in the Caucasus, the Baltic and beyond.

Signed on 30 March 1856, the treaty appeared to be a triumph for Napoleon III's empire. But the victory parade at Spithead on England's south coast three weeks later told a different story. Queen Victoria reviewed the fleet that had been assembled to attack St Petersburg, accompanied by diplomats, press reporters and large crowds. The unparalleled display of force served to emphasise that the war had been won by British maritime and economic power, with the support of French and Ottoman troops. It sustained British deterrence for decades: mobilising a 'Baltic' fleet halted Russian invasions of Turkey and Afghanistan in the years that followed. Britain would not have to fight another great power for 58 years, and so could focus on economic expansion and domestic reform.

> "BRITAIN WOULD NOT HAVE TO FIGHT ANOTHER GREAT POWER FOR 58 YEARS"

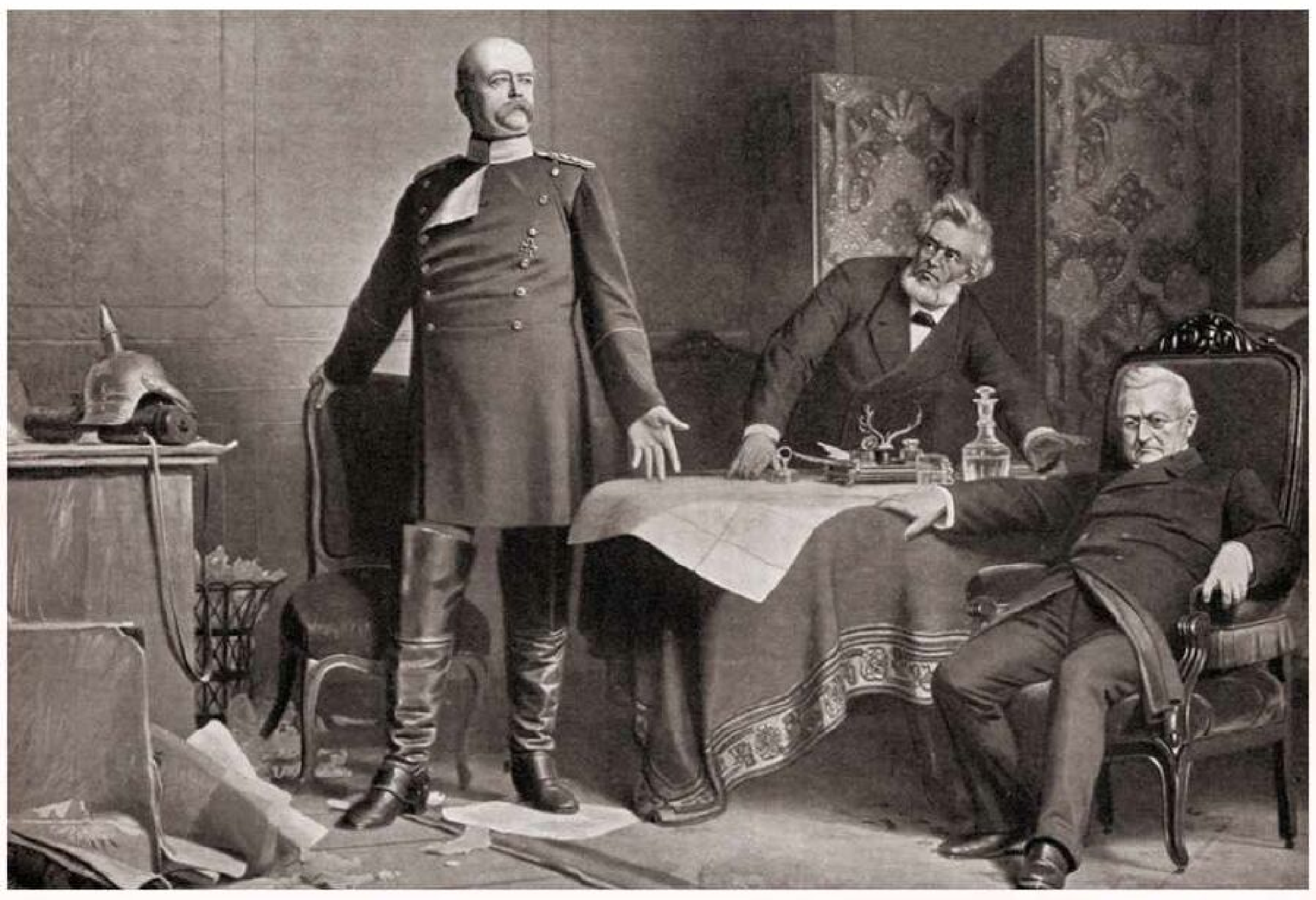
REDRAWING THE MAP

In the Crimean War, the first major conflict of the industrial era, Britain and France dominated the seas with steam-powered ships and land battles with modern rifles – tools that Russia lacked. This was the first war when correspondents reported from the front line via telegraph cables and photographers captured images of conflict. It saw the first use of mass-produced weapons, armoured warships, submarine mines and railway lines. Britain's immense merchant fleet sustained campaigns in four distant theatres, while the war inspired the development of modern nursing and new items of clothing, including the cardigan and the balaclava. Elsewhere, the lessons of the war shaped the strategy, tactics and sartorial styles of the American Civil War shortly afterwards. In 1861, Union troops adopted the uniforms, *kepis* (caps) and facial hair of the elite French regiments that captured Sevastopol. In Britain, the ceremonial uniforms of the Guards, Horse Guards and Royal Horse Artillery remain those of the Crimea.

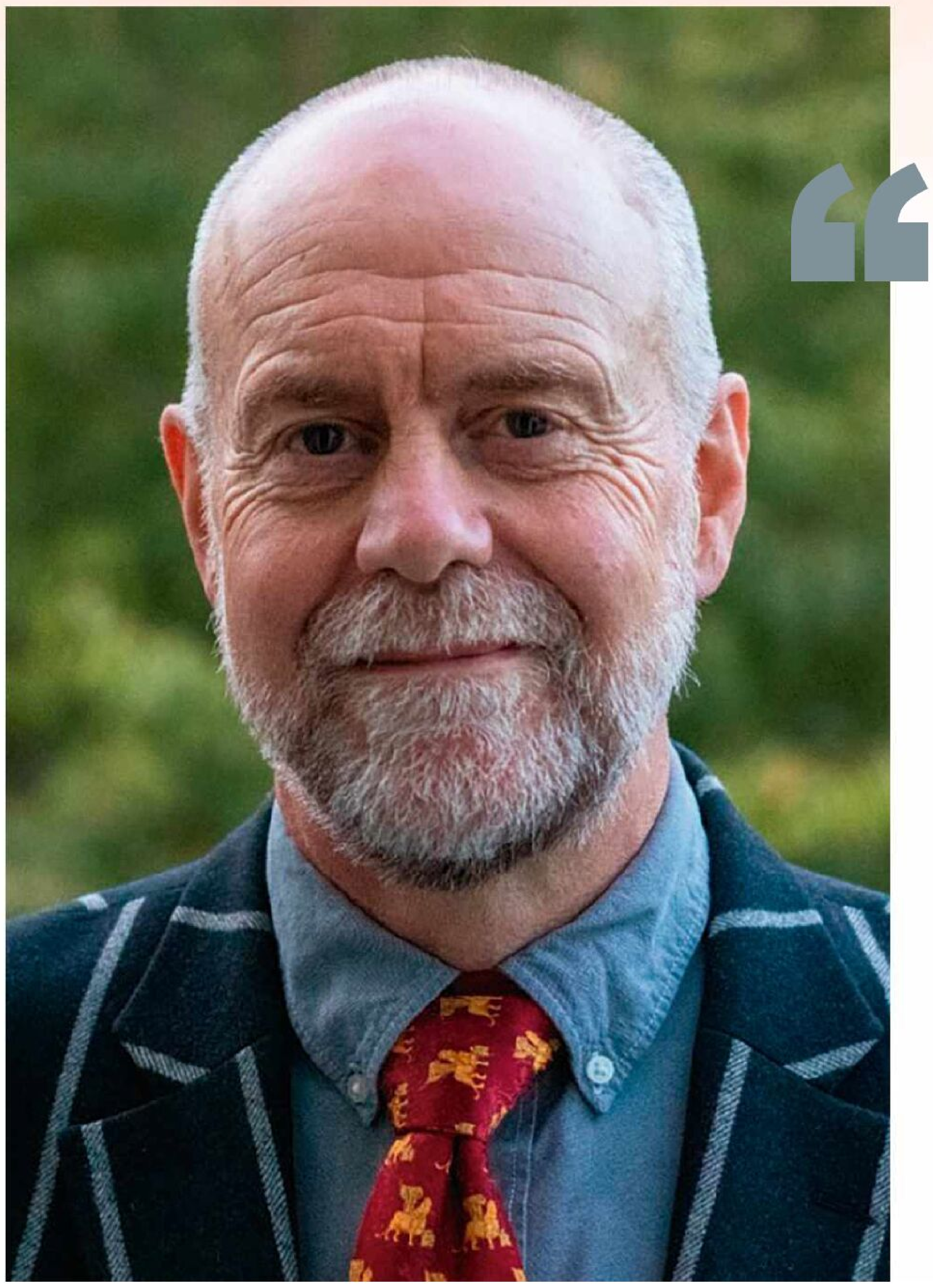
Russia ceased to be a great power for several decades, turning inwards to rebuild a shattered economy and build the industries and infrastructure for modern war, including the abolition of serfdom to release the necessary manpower. Russia's retreat opened the flood gates of nationalism in eastern and central Europe; the Kingdom of Piedmont-Sardinia joined the Allies in 1855 to agitate for Italian unification, a project completed within a decade. Yet the most significant consequence of Russian weakness would be Otto von Bismarck's creation, in 1871, of a German empire that would dominate European politics for the next half century; a dominance founded on the ruins of Napoleon III's empire.

Still, Russia remained aggressive, seizing a huge block of territory from Imperial China in 1858 and continuing to advance against weaker foes in Central Asia until every independent regime between Moscow and the Chinese border was destroyed. Ultimately, it would be Russian ambitions in the Balkans that sparked World War I.

ANDREW LAMBERT is Laughton professor of naval history in the Department of War Studies at King's College London. His books include *The Crimean War: British Grand Strategy against Russia, 1853–56* (Routledge, 2020)



German statesman Otto von Bismarck (*left*) seized upon the changing climate in Europe after the Crimean War to build an empire that lasted until WWI



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PROFESSOR ANDREW LAMBERT ON THE CRIMEAN WAR'S LEGACY

"Russian empires have pushed south and west for the past 500 years"

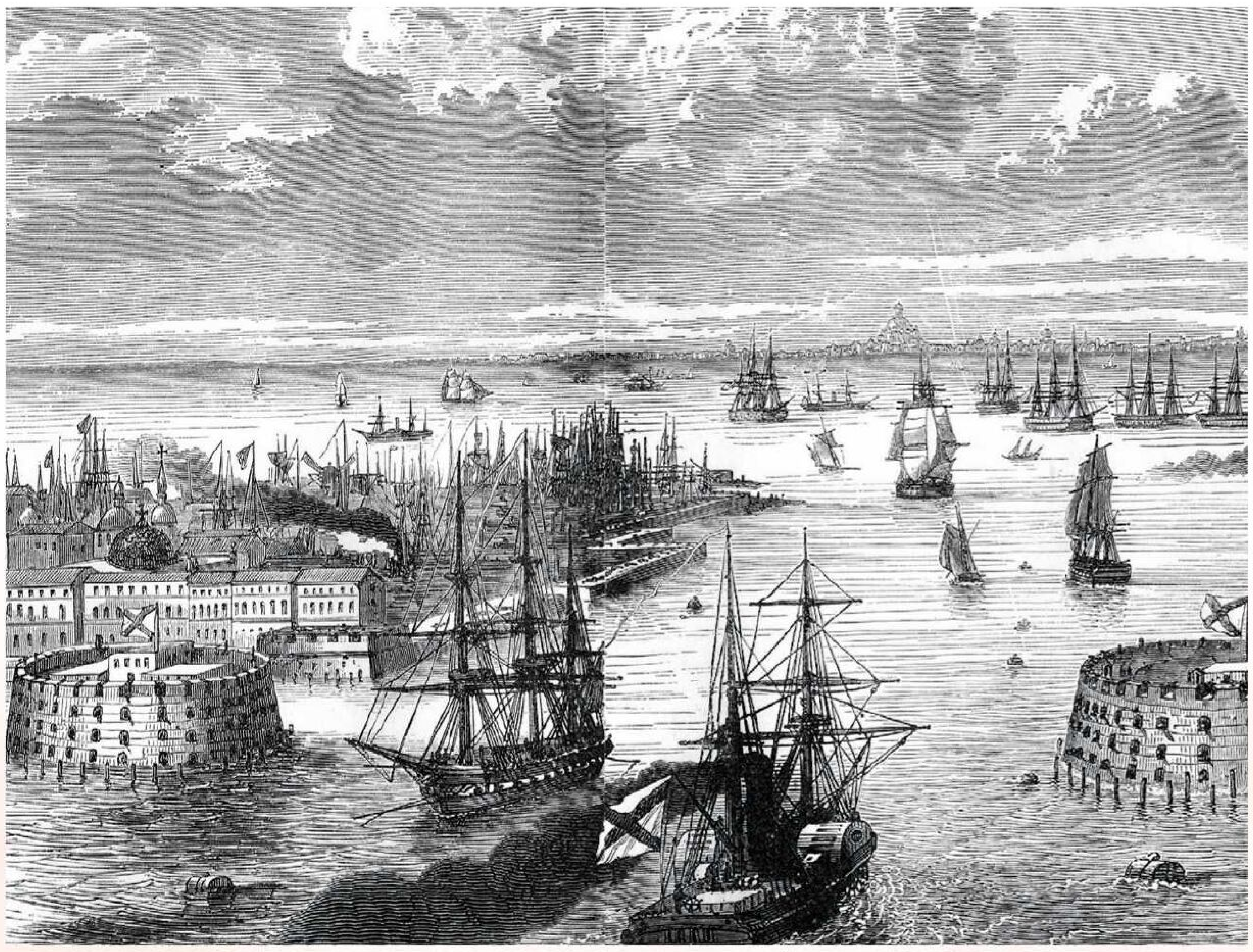
For many years, the Crimean War was remembered as a distant and chaotic conflict of no great importance. But when, in 2014, Vladimir Putin seized the Crimea and then followed that in 2022 with his invasion of Ukraine, he reminded the world that Russian empires have pushed south and west for the past 500 years, subjugating other peoples to enhance their own security.

It had been the unprovoked seizure of two Turkish provinces in 1853 that started the first great power conflict in Europe since 1815. British ministers had long anticipated the attack, and supported the victim, so along with France they gave Russia one last chance to avoid war. This was ignored, so the Anglo-French declaration of war came in late March 1854. In the end, Russia was defeated in a war that stretched across four theatres – the Pacific, the Black and White Seas, and the Baltic – with the allies relying on British maritime strategy, combining economic warfare with coastal attacks. The Crimean campaign was intended to destroy Russia's Black Sea fleet and naval base at Sevastopol, thus preventing them from seizing Constantinople (now Istanbul).

The conflict was a clash of cultures: on one side was an autocratic military state built on conscript armies, censorship and internal surveillance, which was defeated by a coalition of progressive western states, relatively inclusive politics and technologically advanced economies. While Russia suppressed news of defeats, incompetence and casualties, Britain's war was conducted with maximum disclosure through the House of Commons and a free press. An upshot of this resulting war of words was an enduring, if misleading, impression of failure in Britain – widely attributed to amateurish aristocratic leaders – while highlighting the contribution of figures such as Florence Nightingale. It is high time the grotesque caricature of the Crimean War as restricted to a series of blundering military operations outside Sevastopol be laid to rest.

In the 21st century, Russia's attacks on Georgia and Ukraine have attempted to restore the nation's control over its old empire, and have revived the aggressive rhetoric of faith and nationalism that shaped decisions back in 1853. Putin's politics rely on war, anxiety, conquest and the exploitation of the powerful presence of the Crimean War in Russian culture. (Leo Tolstoy's experiences at Sevastopol, for example, shaped the battle scenes in his epic *War and Peace*.) As with 1853–56, the events of 2022 exposed Russia's economic and technological weaknesses and its dependence on foreign capital, technology and markets.

The Crimean War was won by applying economic pressure, blocking bulky Russian exports and denying the Russians access to international capital markets. Faced with mounting losses, humiliating defeats, bankruptcy and a growing coalition of enemies, the regime realised its survival depended on making peace. I doubt anything has changed. ⊙



Applying economic pressure and blocking bulky Russian exports helped win the war, says Professor Lambert

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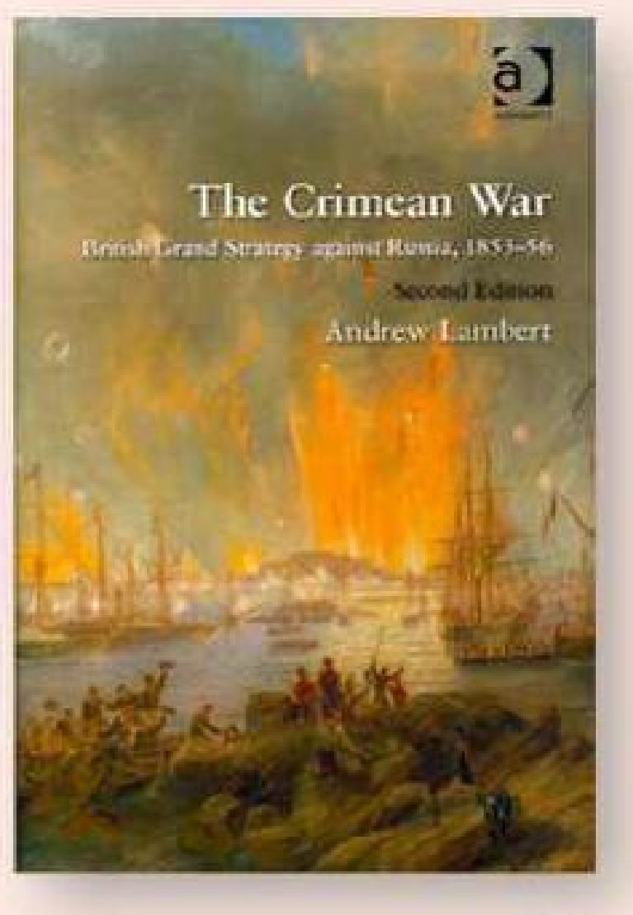
GET HOOKED

If we've whetted your appetite for all things Crimean War, why not explore the topic further with our pick of books, films, TV programmes and podcasts?

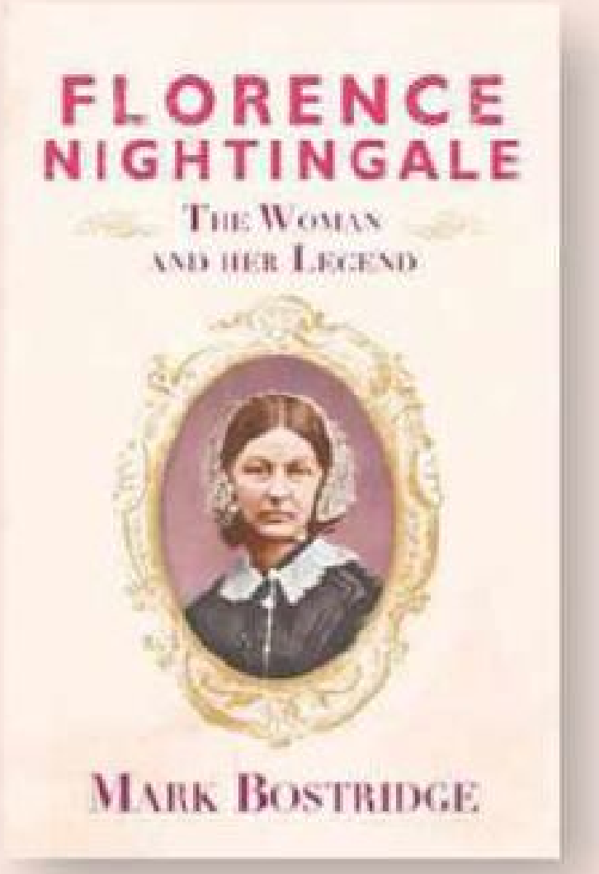
BOOKS



The Crimean War: British Grand Strategy against Russia, 1853–56

By Prof Andrew Lambert (Routledge, 2020)

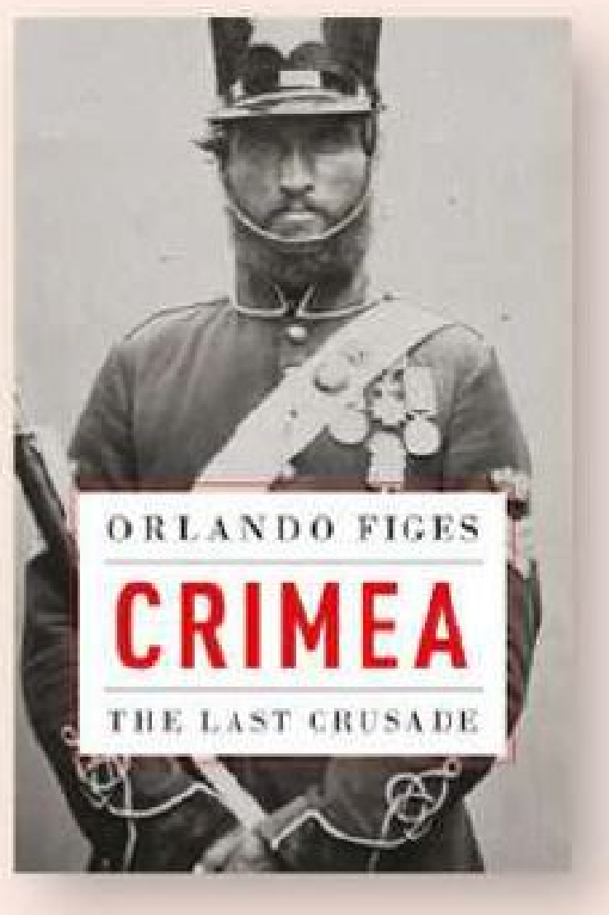
Lambert's study explores the development and implementation of national policy and strategy during the Crimean War, focusing on naval operations rather than those on land.



Florence Nightingale: The Woman and Her Legend

By Mark Bostridge (Viking, 2008)

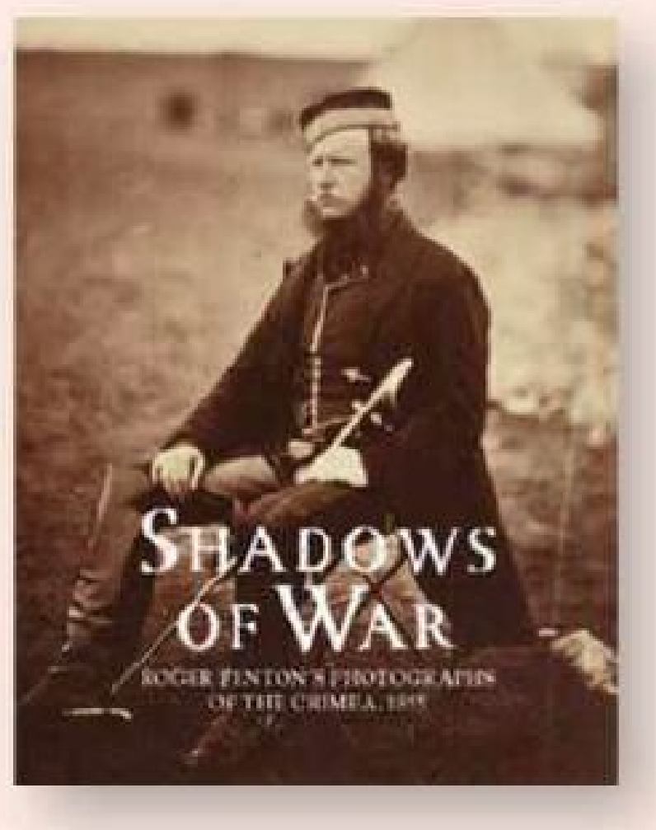
In what was, at the time of its publication, the first major biography of Florence Nightingale in over 50 years, Bostridge draws on unpublished material to throw significant new light on the nurse's extraordinary life.



Crimea: The Last Crusade

By Prof Orlando Figes (Allen Lane, 2010)

Drawing on untapped Russian and Ottoman as well as European sources, Figes vividly depicts the world at war: from the grand palaces of St Petersburg to the ordinary Crimean towns suffering under siege.



Shadows of War: Roger Fenton's Photographs of the Crimea, 1855

By Dr Sophie Gordon (Royal Collection Trust, 2017)

This book brings together some 350 works by the pioneering Crimean War photographer Roger Fenton, along with text highlighting the impact that his images had on people back in Britain.

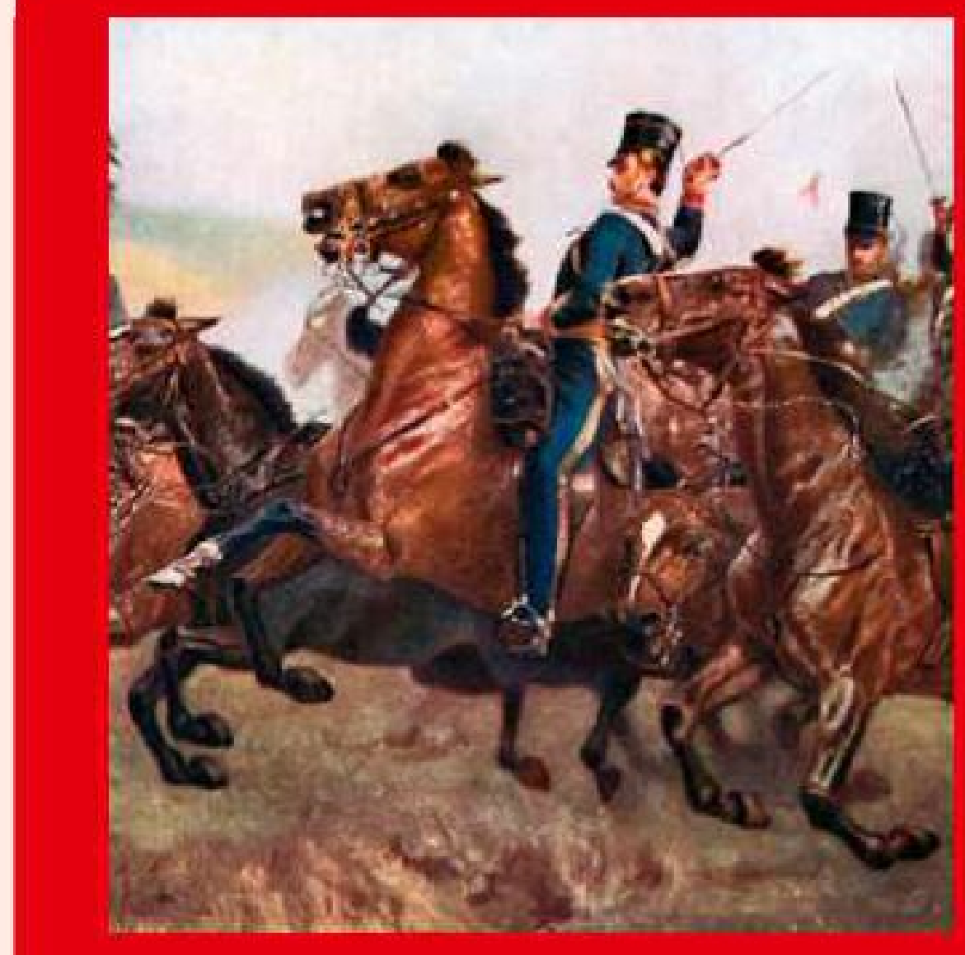
ON THE BBC

BBC SOUNDS

◀ **The Invention of Russia**

bbc.co.uk/sounds/series/m001gx4j

What is Russia and where did it come from? Misha Glenny (*pictured*) explores Russia's long history in this four-part series – from the rise of Moscow, to the threat of invasion.

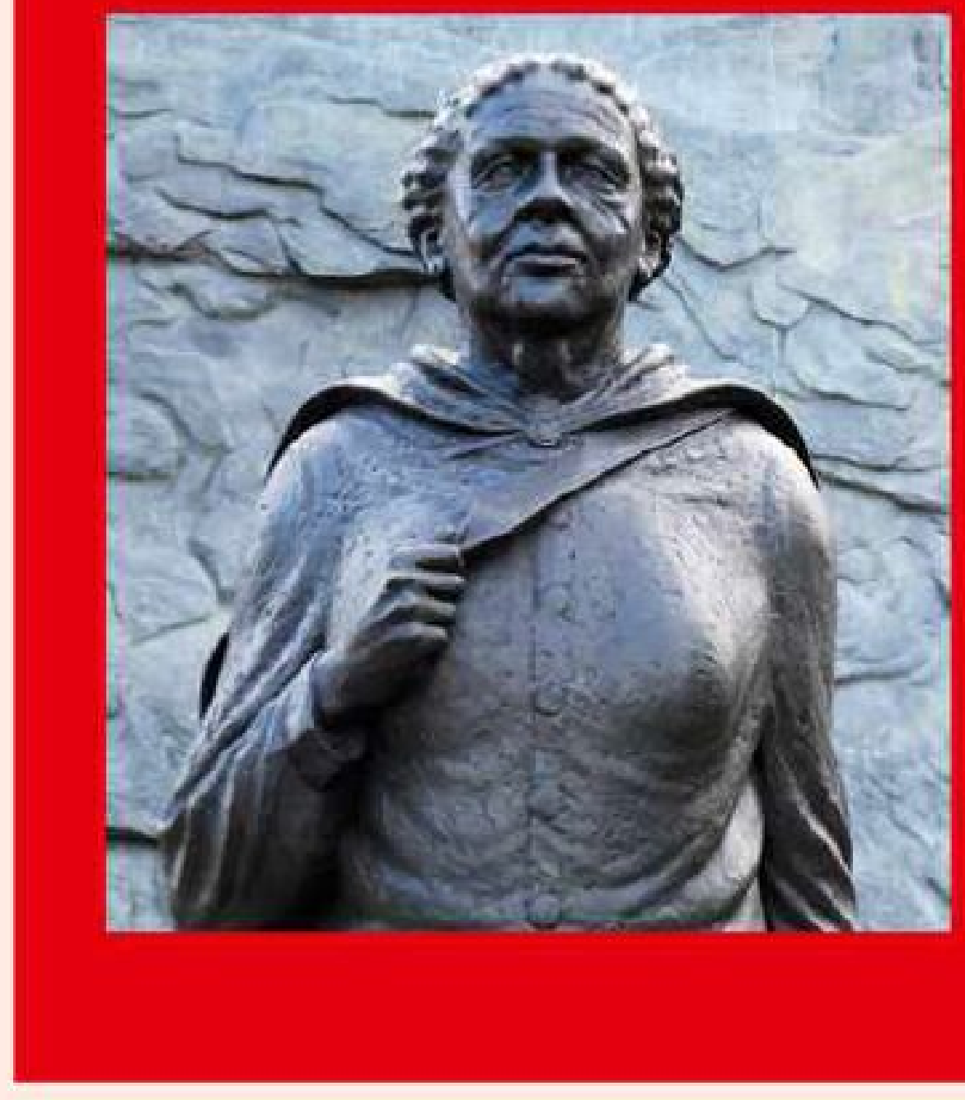


BBC RADIO 4

◀ **In Our Time: The Charge of the Light Brigade**

bbc.co.uk/programmes/b008md8x

Melvyn Bragg and guests discuss the Charge of the Light Brigade and its iconic status in the British historical imagination.



BBC SOUNDS

◀ **You're Dead To Me: Mary Seacole**

bbc.co.uk/sounds/play/p0b2bjb6

Greg Jenner is joined by Prof Gretchen Gerzina and comedian Nathan Caton to delve into the extraordinary life and adventures of 19th-century celebrity Mary Seacole.

ONLINE AND AUDIO

▶ **For podcasts, features, quizzes, interviews and more on the Crimean War, scan the QR code shown right, or visit *historyextra.com/crimean-war***

▶ **The Crimean War: everything you wanted to know**

Prof Andrew Lambert answers listener questions about the conflict of 1853–56. Listen at *bit.ly/3tJyjzD*

▶ **Your 60-second guide to the Crimean War**

Need-to-know facts about the Crimean War, from religious tensions to the battle of Balaclava in October 1854. Read at *bit.ly/3TJmWSY*

▶ **The life and legend of Florence Nightingale**

Mark Bostridge reflects on the pioneering nurse's work during the Crimean War and beyond. Listen at *bit.ly/3GxJenE*

WATCH

In the Shadow of Mary Seacole

(streaming on various platforms)

This 2016 documentary sees actor David Harewood delve into the story of nursing legend Mary Seacole, examining her place in black British history today.

The Charge of the Light Brigade

(streaming on various platforms)

Starring John Gielgud and Vanessa Redgrave, this 1968 war film offers a satirical take on the events surrounding one of Britain's worst military failures.

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